



















Digitized by the Internet Archive  
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Wolf, L. L.

2nd volume of 2.

Species Accounts

Aimophila

(alphabetical order)







LL Wolf  
1964

*Aimophila aestivalis*

June 17 1 mi. S. Boykin Springs, Angelina Nat'l. Forest, Jasper Co., Texas

Song

Heard strange song so tried to find bird. Consisted of one or two of a variety of introductory notes followed by a trill. One I render:  $\text{SS} \dots \dots$

chatter

forage

Heard another bird nearby giving an excited chatter sounds like trill of Chipping Sparrow but slower + change of pitch near end. Saw this bird (♀?) moving along ground thru grass. Stopped once + reached up several to pick at blades of grass. seemed to be getting insects.

chatter  
flight

just as it started to rain ♀ went flying by chattering. lit in small leafy shrub then flew on. total flight 150-200 yards.

chatter

Heard two birds chattering one after the other. Finally both flew in to same area + lit within 5-10 feet. Then both gave long chattering calls. Sounded like a pair Scissor-tails. ♀ then disappeared + ♂ remained for 15-20 sec. on dead pine branch perch 10 feet above ground.

June 18 1 mi. S. Boykin Springs, Jasper Co., Texas

Wto area at 0545. Can't hear any P-w Sp. singing. Walked thru area until 0630 when finally heard ♂ singing from N of where seen yesterday. Chased this bird + finally got some recordings. He moved to S for 50-100 yards + then slightly east. Recorded while ♂ sitting on dead pine limb about 10 feet above ground. Then flew off to SE. I played the recordings + 10-15 sec. later ♂ flew by 30-40 yards to S + lit, but flew almost immediately directly away to south.







LLW014  
1964

*Aimophila aestivalis*

June 18 Laird Boykin Springs, Jasper Co., Texas

Moved to S. myself + tried playback again. Could hear one bird chattering nearby. Played again. ♂ flew up to dead limb 20 feet above ground + 60 feet away. Then flew over my head as I moved parabola into position. Gave two-three songs ran together from perch 25 feet up - again a dead limb of pine. Then flew off to S. 3-4 min later heard series of 4 or 5 songs about 50 yards to E. Tried more playback with no luck, except bird chipping "nearby" - couldn't see it. At 0705 heard 3 songs to N.

Area is stand of long-leaf pine 30-60 feet tall with nearly continuous ground layer of grass. Shrubs + young trees - mainly sycamores - scattered thru area. Also much poison ivy. One clump of 20-25 feet tall caks which have not been used by sparrows.

The extent of the area utilized by pair so far is about 200-300 yards long. Width up to 50 yards but generally move along fairly straight N-S line.

0928 - ♀(?) flushed from near base of pine + small shrub. ♂ sang one song. This back at N. end of area where heard singing about 0630 this morning. Flight of ♀ was floppy with tail elevated + pumping. Dropped into clump of shrubs 50 feet to N + disappeared.

♂ when coming in to playback shifted orientation on perch by 25-30° + flicked wings while keeping tail elevated at







LHW04  
1964

*Amphispiza aestivalis*

June 18 1 mi. S. Boykin Springs, Jasper Co., Texas

60° angle.

0733 - bird (♀?) which had disappeared into shrubs 5 min. earlier flew up into small pine (15 feet tall) onto lowest dead limb (4½ feet up). Gave loud "chink" just before landing. Stayed momentarily on this perch & then changed perches 4 times moving higher & into branches of pine 2 feet away. Then flew 70 yards to W where sat on dead pine limb 15 feet above ground. Sang once & then began to preen (0740) - preened essentially continuously for ~30 min (0808) when flew off to NW & disappeared. Paused each time a Pine Warbler gave trill-like chatter series. Looked in direction of sound & then thru arc of 50-60° then back to preening. Scratches over wing.

Tried playback of a few songs. Bird turned to face me & began to change direction on perch thru ~ of 60°. Had tail cocked at 50-60°. Did not leave perch. Soon after stopped playback bird resumed preening.

0810 - heard series of 4-6 single songs, <sup>with</sup> rather lengthy (½ min) between songs. This from S. of preening perch at least 50-75 yards. Probably same ♂, but unable to follow movements.

0822 - one song from SE(?) >100 yards. (very faint)

0827 - tried another playback. Bird came in from SW & at 100 feet away in pine - dead limb 25+ feet up. - Sang once. Had tail cocked & head up, only shifted position slightly.







LH/18  
1964.

*Amphispiza aestivalis*

June 18

1 mi. S. Boykin Springs, Jasper Co., Texas

While playback still going flew to SW. + lit 5-7 feet up on growing tip of pine branch. Had tail cocked at 45° + head elevated, then flew off to SW.

0831 - ♂ singing off to SW. Found ♂ + he flew into oak where sang several times (a 10 feet up). Flew to SE into pine + sang here for 5-10 minutes. Recorded this series and then bird flew off to E. Here encountered a 2<sup>nd</sup> bird + heard series of chatter notes. One bird then flew off to ~~SW~~ while ♂ continued on to N. Followed ♂ + tried to get more recordings. Hard to mind + watch ♂ at same time so either the song has a ventriloquist effect or there are 2 birds singing. I am fairly certain that it is only one bird. Especially deceiving is the marked decrease in volume of several types of songs. This should be noticeable on some of the recordings. ♂ then flew on to W + began another spaced series of songs. Then was quiet.

flew to E + lit on dead limb 7 feet up + out about 2/3 of 20" from trunk.

0940 - 20<sup>th</sup> singing to E. only 5 songs consisting of 1 intro. note + trill. Then quiet until 0941.5 - when gave 2 songs in rapid succession + then several soft songs. 0843 - singing regularly. another song is two whistle notes followed by a trill.

belongs  
on  
next  
page.







*Amphispiza aestivalis*June 18 1 mi. S. Boykin Springs, Jasper Co., Texas

0907 a bird flew down into small shrub + hopped to near end of a branch. then flew up to lowest (6 feet) limb of pine 25 feet to SE. heard bird singing but seemed to be from farther away than this one I am watching (now hidden behind trunk) so think this is ♀. Then back down to ground by shrub. Disappeared, but flew out after 15± sec. to NE. lit on dead pine branch 7 feet up then flew to another 20 feet farther to NE. Here turned slightly on perch ~~back~~ back + forth + fluffed feathers once. Then down to ground.

0915. - ♂ 50 feet to E of shrub begins singing from perch 7 feet up. ♀ on dead limb ~ 20 inches long about 6 inches from end.

0919 - ♀ onto <sup>dead</sup> pine limb 50 feet to NE of shrub. ♂ quiet, ♀ carrying food - looks like orthopteran. Chipping lightly. limb is 8 feet up + slightly ~~up~~ above horizontal. ♂ has moved closer to main trunk. Both birds now quiet, except for occasional soft "tink" from ♀.

0924 - Both birds now flown. noticed that just before ♀ flew she had either dropped or eaten food she was carrying. 1000 - while I was searching around shrub for a possible nest ♀(?) flew into tree 20 feet up + 50 feet to N. carrying mouth full of insects. chipping occasionally. stayed there for 10± min. giving an occasional chirp. then silent not sure when she is.

Left area at 1015.







Lh Wolf  
1964

6

Aimophila aestiva

June 19

1 mi. S. Baykin Springs, Jasper Co., Texas

No sign of birds when I arrived at potential nest area at 0603. Heard one song from NE at 0606. Woods is very quiet except for occasional Pine Warbler songs. Heard single songs at 0611 + 0613 - woods light. No to very light breeze. Sun out shining in woods yet. grass wet.

0625 - wind begins blowing low clouds from S. often obscures sun. 0640 - saw first bit up forest floor around me.

0700 - heard several songs from N of "nest" area, but still no sign of the sparrow.

0712 - heard ♂ singing. Tried playback; ♂ came in to 100 feet + sang 5-6 songs. Then silent 15 sec. to SW. Then flew almost directly east + began singing. Quiet again at 0715.

Still no sign of ♀. 0712 - ♂ singing to N of me 100 yards.

0734 - still no sign of ♀ so leaving this spot near "nest."

0744 - on bird flew onto dead limbs of pine (15 feet) + changed directions on perch + flicked tail. Chirping<sup>2x</sup>. Bird then flew from ground near base of shrub carrying large piece of dead grass. Flew 30+ feet to dead shrub where sat for 10-15 sec. Then flew 20 feet + dropped into grass. Was in for 30+ sec. during which time ♂ sang one soft song. ♀ out to small pine 15 feet N. of nest. Then back to base of shrub. ♀ another piece of grass back to pine + then to grass 25 sec. during which ♂ sang one soft song. ♀ stayed on ground. Then to small pine + back to shrub. With more grass flew to another small pine 5 feet from nest.







L L Wolf  
1964

7

*Aimophila nestorialis*

June 19

1 mi. S. Boykin Springs, Jasper Co., Texas

On ground 25 $\pm$  sec. - ♂ didn't sing - but changed perches to closer to shrub & back to shrub. The next trip ♀ flew directly to nest site & dropped in grass - also flew directly away. ♂ one soft song. ♂ sitting very quietly on dead limb 10 feet above ground.

0807.5 - ♀ into dead shrub

0808 - ♀ to ground. - 10 sec. back to collect more grass.

0810.5 - ♀ directly to nest from 50 feet to nest. 5-10 sec.

later up to dead shrub. 0811.4 - ♀ to 50-60 feet NE of nest.

0813.3 - ♀ to nest with large tuft of grass. ♂ not visible. 0815 - ♂ sunk & jump from rim to another dead limb in small pine (25 feet from nest) ♀ then into small pine ♂ off to NNE then ♀ to NE.

0817 - ♀ back to nest 0817.5 ♀ to small pine then to NE for grass. ♂ sang twice (10 feet up near end of 2 foot dead limb. Then hopped close to trunk & sang twice more (0820).

0821 - ♂ flew down to near where ♀ last seen. Maybe both are foraging.

0822 - went up & found nest. is placed at edge of grassy hummock so dead grasses form an overhang. opening faces to NE. nest just started. she has put in








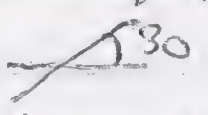
LL Wolf  
1964

*Amphispiza alberta*

June 19 / mi. S. Boykin Springs, Jasper Co., Texas

Circle of grasses just back from entrance.  Ground  
to bare + it appears she cleaned + possibly scrapped a small  
0831 - ♂ singing 150 feet E of nest. 15 feet up + <sup>depression</sup>  
right at end of 6 inch dead stub. 0832 - silent.

0838 - ♂ preening on same spot. - stopped at 0839.

0844 - ♂ preening no sign of ♀. 0845 - sitting quietly at  
end of the dead limb - tail + body axis form straight  
line about 30° with perch.  legs bent + only  
part of tarsus shows below abdomen feathers. slow  
rapid up + down movement of feet on perch as if  
going to fly but didn't leave (0850) - (limb 1" diameter)

0852 - ♂ gone from perch - left while I was writing  
notes so not sure where he went.

0900 - ♂ up into limb (6") of pine, then after much "bowing"  
+ tail pumping flew to lowest dead limb of pine (7" up)  
+ sang. Tail flicking when held at horizontal or above  
as sinks below horizontal birds becomes quiescent.  
(limb 2" dia.) flies to ~~the~~ N when about 100 feet  
from nest. Sings soft song with occasional louder  
song at end of 2 foot long - 2" dia. perch. 10 feet up

0907 - left perch - not sure to where.

0908 - Bird on small <sup>seed</sup> limb (1/2" dia) in small pine 20 feet  
N of nest. Tail above horizontal + 30° + pumping. Bird  
swinging thru 60° on perch + once turned 180° +  
then back to still facing forward nest. Sifted







LLWof  
1964

*Aimophila aestivalis*

June 19

1 mi. S. Baykin Springs, Jasper Co., Texas

head  $10-20^\circ$  below horizontal & looked in direction of nest. Back to above horizontal - repeated several times & then dropped to ground below pine. can hear occasional chips as would when in small pine.

0913 - up into small pine. ♂ over to smaller pine to alt about 10-15 feet. Then sat on live branch ~~18"~~ 18" above ground among needles at end tuft. looked at ground & generally maintained horizontal axis.

0917 - ♂ flew to SW 75-100 yards & sang several times - followed there by ♀.

0921 - ♂ still singing. - appears they noticed some disturbance likely caused by me looking for nest.

0923 - ♂ quiet.

0931 - although not quite simultaneously heard ♂ sing 100 ± (3) yards to SE followed by ♂ from SW near where last saw ♂ I am watching. When ♂ (#1 - mine) stopped then ♂ #2 started again. Enough time between probably to get back & forth, but doesn't seem likely.

0937 - ♂ #1 began singing

0945 - ♂ #1 still singing, but sounds as if he moved slightly to N. now fairly sure that ♂ #2 is due to ventriloquist effect of song of ♂ #1.

0950 - ♂ #1 silent.







L L Wolf  
1964

*Amorpha aestivalis*

June 19 1 mi. S. Boykin Springs, Jasper Co. Texas



O = pine diameter  
approx. relative to each other

gorges







LH501f  
1964

*Aimophila aestivalis*

June 19 1 mi. S. Boykin Springs, Jasper Co., Texas

1026 - ♂ starts singing from 100+ yards west of owl area. only 5-6 songs. Then again at 1028.

1031 - ♂ stops singing as I approach.

June 20 1 mi. S. Boykin Springs, Jasper Co., Texas

Arrived at nest site at 0540. Flock of 6 *Chondestes* in pines overhead. light meter reading (0545) - 8.8

0542 - one song ♂ - to W.

0543 - 4 songs in succession, but usual spacing. - to W.

0545 - ♂ singing HLL HLL stopped at 0546.7 to NW.

0547 - ~~one~~ <sup>111</sup> singing to W. could hear flutter of wings during floppy flight.

0548 - ———— 11

0550 - nothing seems to have been added to nest after I left yesterday.

0552.5 - 2 more songs. to W.

0553.5 - 4 more songs to W. HLL 11 - stopped at 0554.5.

0600 - found ♀ making trips (3) to spot near base of pine 75-100 yards to SW of yesterday's site. Her course is to NE of nest about 200 feet again around shrub clump. ♂ is singing - sounds as if near old nest site.

0605 - ♀ flies directly to nest site; after 15-20 sec. flies directly back to shrub.





LLW014  
1964

12

*Amphispiza bilineata*

June 20 1 mi. S. Boykin Springs, Jasper Co., Texas.

0606.5 - ♀ directly to nest with long (4-6") grasses - fine.  
♂ sings twice.

0608 - ♀ directly to nest. ♂ sings twice 25 sec. ♀ directly  
back to shrub.

0610 - ♀ directly to nest. 20 sec + ♂ sang twice.

0611.7 - ♀ directly to nest from shrub. ♂ sang twice.

0613 - can hear one bird chirping from near shrub  
source must be ♀.

I saw ♀ pause once each way to + from nest. When  
carrying long grasses stopped 8 feet up on bare portion  
of live pine limb + pulled at grasses. Seemed to leave a  
few behind when flew on. Stopped 1/2 way to shrub  
on 7' dead pine limb (1" diameter). then continued on to  
shrub.

0616 - ♂ sang once. - sunlight in streaks thru woods  
but lighting floor at 0615.

0618 - ♂ sang once.

0620 - ♂ sang once. no sign of ♀.

This nest site is 50-60 feet from shrub where I first  
(June 18) thought nest might be - probably where ♀ feeding  
fledged young.

0628 - ♂ sang 11 in 1/2 minute (twice).

0630 - ♂ sang twice soft. ♀ into small pine dead  
limb 150 feet to NW of nest. chirping excitedly.  
then flew to small pine 1/2 to shrub. chirped





L. Wolf  
1964

*Aimophila cristalis*

June 20

1 mi. S. Boykin Springs, Jasper Co., Texas.

several more times then to shrub. ♂ sang 3 times.

0633.5 - ♀ to nest. ♂ sang soft song once.

0639 - ♀ to shrub, ♂ sang 4 times.

0635 - ♀ directly to nest. ~~at~~ nest for ~~20~~ 40 sec.

♂ silent. ♀ out to another small pine where stopped momentarily then to shrub. ♂ sang 3 times.

0637 - ♀ to nest at for 50 sec. ♂ sang 5 times.

then ♀ directly to shrub songs 11

flight is nearly direct to slight undulations - wing beat slightly irregular + fluttery. Slight tail pumping.

0638.5 - ♀ directly to nest songs 1

0639.3 - ♀ to small pine  $\frac{1}{2}$  to shrub. - chips softly.

songs 1

0641 - ♀ to shrub. 2 sharp trill notes on way. songs 111 ♂ at tip of shed (18" long, 20 feet up) 150 feet to NW nest.

0643.5 - ♀ directly to nest with grass trailing 4-6 inches behind her. songs 1 - 35 sec. ♀ back to shrub songs 11

0645 - ♀ to nest. song 1 (soft)

0645.5 - ♀ to  $\frac{1}{2}$  way tree with soft chip on landing. 20 sec

later flew on with several soft chips. ♂ left his perch.

0648 - ♀ up to  $\frac{1}{2}$  way small pine - 2 soft chips + then to shrub - more chips.

0649.5 - ♀ to nest one sharp chip  $\frac{1}{2}$  way to nest.

at nest for 55 sec. flew out with several sharp chips 1st in  $\frac{1}{2}$  way pine. chipped loudly flew on to ~~the~~ shrub.





LLW015  
1964

*Aimophila aestivalis*

June 20 1 mi. S. Baykin Springs, Jasper Co., Texas

heard low chattering by 2 birds. ♂ flew into shrub from 30 feet to now + ~~heard~~ gave the continuous three part song. Then several chips + quiet.

0700 - Brought rest of equipment to new observation site.

No songs from ♂ + ♀ not seen since pair reunion performance. probably foraging. light meter reading 10+ - grass still wet.

0710 - ♀ into tree (12' up) ~~at~~ 200 feet NW of nest, mouth full of grass. at nest for <sup>songs-4</sup> 50± sec. Back to same tree then down to shrub. ♂ is N of nest + beyond shrub.

0713 - huge then tops of pines.

0714 - ♀ 2 two chips back to shrub. must have been on nest for at least a minute.

0715 - songs //

0715.3 - ♀ to nest songs IIII - 25 sec. 7th song ended abruptly as ♀ flew out from nest. songs //

0717 - ♀ to nest. ♂ dropped to or near ground 30 feet to W or NW of shrub.

0718 - ♀ to shrub with single, soft chip.

0720 - ♀ to nest.

0721 - ♀ to small shrub beside 1/2 way pine then to shrub after series of soft chips.

0722.5 - ♀ to nest. songs I on nest for 20 sec. back to shrub with 2 sharp, rather soft chips.

0725 - ♀ to nest with grasses trailing at least 6 inches behind. out after 40 sec + 3 ♂ songs. Back to shrub.





LL Wolf  
1964

15

*Aimophila aestivalis*

June 20

Lewis Boykin Springs, Jasper Co., Texas

0726.5 - ♀ to nest. looked as if one grass dropped on way. in for 25+ sec. then to shrub by 1/2 way pine. several loud chips then on to shrub where soft chittering.

0728.5. ♀ to nest. grasses trailing 6+ inches behind. at nest for 40+ sec. ♂ moved to tip of dead pine branch (2" dia - 7' up) 3/4 to shrub. ♀ just below in green shrub after series of chips as come from nest. then ♀ up into tree on a nearby dead branch. silent, then to collecting shrub. ♂ sitting right on up-turned tip + preening. 0754.

~~Soft~~ songs — ..... \ ..... ~ .....

0736 - still preening. - ♂ left

0744 - ♀ to nest. - 30+ sec. back to 1/2 way pine with several chips - sat there + gave loud chips - some almost run together enough to be chitter. 0746 - ♀ disappeared + silent.

0751 - series of chip notes + one song from NE of nest  
75-100  
~~75-75~~ yards.

0756.5 - ♀ to nest. at for 35 sec then to 1/2 way pine. on 1" dia. 5 foot dead limb. 1/2 way out. giving occasional soft chips. then to shrub.

0759.5 - ♀ to nest. songs 111 at nest for 35 sec. to 1/2 way pine about 1 foot from trunk on same branch. then to shrub.

0800 - ♂ 1st noticed on <sup>same</sup> perch as earlier 3/4 way to shrub.

0802 - ♀ to nest. songs 1 at nest 35+ sec. to 1/2 way pine next to trunk. then to shrub. ♂ preening -





LL Wolf  
1964

*Aimophila aestivalis*

June 20 1 mi. S. Boykin Springs, Jasper Co., Texas

Songs 1111

0805 - ♀ to nest. Songs III at for 35+ sec. then to shrub  
♂ preening. Soft songs - intro, note + trill.

0807.5 - ♀ to nest. Songs - II at for 32 ± sec.

Came to shrub where gave <sup>short</sup> series of soft chitter notes.  
Songs 1 (two note intro.) - 1 (2 <sup>intro</sup> - note) / ♂ preening

0810 - ♀ to nest - songs 1 20 sec. then to shrub.

♂ sitting c tail slightly below body axis.

0812.5 - ♀ to nest Songs - II 23 sec at nest. She is going  
slightly (3-5 feet) beyond shrub during to get material now.  
Songs - ~~HHH~~ 1 (one song)

0815 - heard chips + series of chitters. Bird dropped to  
ground near 1/2 way pine. ♂ flew down + heard another  
series of chitters + rustling in grass. One bird flew out  
to east giving continuous series of songs. 2<sup>nd</sup> followed with  
same songs. ♂ then singing to NE while ♀  
went to nest; then to small pine just before 1/2 way pine  
then to shrub. heard series of disconnected chitter notes

Then several chips. ♂ discontinued singing at  
0818, began again (or maybe other ♂ at 0819).

Neither bird that flew out seemed to be juv. so I guess both adult  
0820 - ♀ to nest. ♂ singing to NE. at nest for 60 sec.

then to 1/2 way pine where lit on short side branch.

♂ still singing. ♀ flew 0821.5 to east (n 1/2 way to ♂)  
where she lit on 3" dia trunk (5' up) of slightly sloping tree.

next  
page  
for





LL Wolf  
1964

*Ammodramus aestivalis*

June 20 1 mi. S. Boykin Springs, Jasper Co., Texas.

0823.5 - ♀ disappeared. ♂ still singing. Chatter notes reported on earlier page were probably made by family group of Pine Warblers in trees behind shrub clump where ♀ gathers nest material.

0837 - ♂ sang several times to NE of nest.

the continuous song given by two ♂♂ as they flew out was identical (to me) to song given at pair reunion.

0842 - ♂ 1 song followed by continuous song (me).

0843.5 - ♂ 3 songs to SE of nest.

0845 - ♂ singing near nest site of yesterday.

0855 - chased singing ♂ near road which is 150+ yards SE of nest site. He moved off further to SE. Then (0858) heard ♂ #1 singing to N of nest 100-150 yards + ♂ #2 singing from across road to SE of nest.

0900 - ♂ #1 singing back over nest site.

0903 - Saw ♀ drop into shrub clump. ♂ in tree just above clump. ♀ to nest. back out to 1/2 way pine where sat ~ 4" from trunk + gave loud chirps. flew + met ♂ between 1/2 + 3/4 way to shrub. ♀ continued onto shrub + ♂ to song perch at 3/4 point, but on tuft of dead needles just below the usual one.

0908 - heard continuous song followed by regular song toward road. ♂ #1 still on 3/4 way perch so that is #2 ♂.

0910 - ♀ to nest. ♂ #1 singing. ♂ #1 drops down 4-5" + has tail coiled + is jumping around on perch. Sings two





LLS01f  
1464

*Amphispiza aestivalis*

June 28 1 mi. S. Boykin Springs, Jasper Co., Texas

loud songs while ♀ at nest. ♀ then with several chips flies to 3/4 tree + ♂ flies off to NE where sings loud songs.

0912 - ♀ with several chips drops down to shrub.

0913.5 - ♀ to nest, ♂ singing loud songs to NE of shrub.

♀ back to shrub with one loud chip & 1/2 way after 40 sec. at nest. shrub complex is 50-75 feet SW of yesterday's nest site.

0917 - ♂ quiet

0920 - ♀ to 1/2 way pine. gave series of chips then quiet + looking around. ♂ singing to NE another series of chips + ♂ flies in + replaces ♀ who flies to nest. ♀ then back to 1/2 after ♂ was at first changing directions + elevating tail on perch. ♀ lit next to trunk. ♂ then to SE 50 feet + lit on 1/2" dia, 7' up dead limb. ♀ to shrub. ♂ to oak near shrub where sat on dead + sang. (7' up). 0925 - ♂ gone from oak perch + silent.

♀ left nest (0926) + to 3/4 way pine. perched 6" from trunk on branch usually used by ♂ for song perch. gave chitter series ..... then (0927) flew to shrub area. A bird is perched just above shrub (5' up, 1/2" dia. 6" from trunk) on dead pine limb.

0929 - cocked tail, sleeked feathers, tilted slightly forward + flew to ground 10 feet ~~E~~ ENE of shrub. must have been ♀.

0934 - ♂<sup>A</sup> 1 song near yesterday's nest site.

0935.5 - 1 song, then --- ... --- followed by  
||||| regular songs ending at 0939.





LWSH  
1964

*Aimophila aestivalis*

June 20 1 mi S. Boykin Springs, Jasper Co., Texas

0940 - ♂ #1 singing again ~~THH~~ ~~THH~~ ~~THH~~ ends at 0942.

singing from area of yesterday's nest

0942. ♂ #2 singing to SE - prob. across road.

0942.5 - ♂ #1 starts again - ~~THH~~ ~~THH~~ ~~THH~~ ends at 0944.

0945 - heard 2 continuous songs then ♂ #1 started - also can hear ♂ #2 apparently across road. ♂ #1 + #2 counter-singing apparently separated by about 100 yards. ♂ #1 from 100-200 yards NE of nest flies back in 2 jumps to near shrub dump. Both birds then quiet at 0950.

0951 - ♂ #1 singing - #2 sings once - ♂ #1 sounds like softer songs perhaps ♀ is nest-building again.

0953.5 - bird (prob. ♂) down to ground at base of pine 30-40 feet NE of shrub dump.

1010 - heard one continuous song from ♂ #1. then silent again.

1011 - ♂ #1 singing //

1012 - ♂ #1 up into <sup>from ground</sup> ~~ab~~ near shrub. sang once loudly.

1015 - changed perch upward + different twig after 2 soft songs.

changed again at 1017. Again at 1018 - hidden but

2 soft songs by 1020. perch size progressed from  $< 1/4"$  to  $1/4"$  to  $1"$  on initial perch + 1<sup>st</sup> two changes.

1023.5 - two continuous songs + two regular songs by #1.

#2 gave at least one song followed by several more from #1.

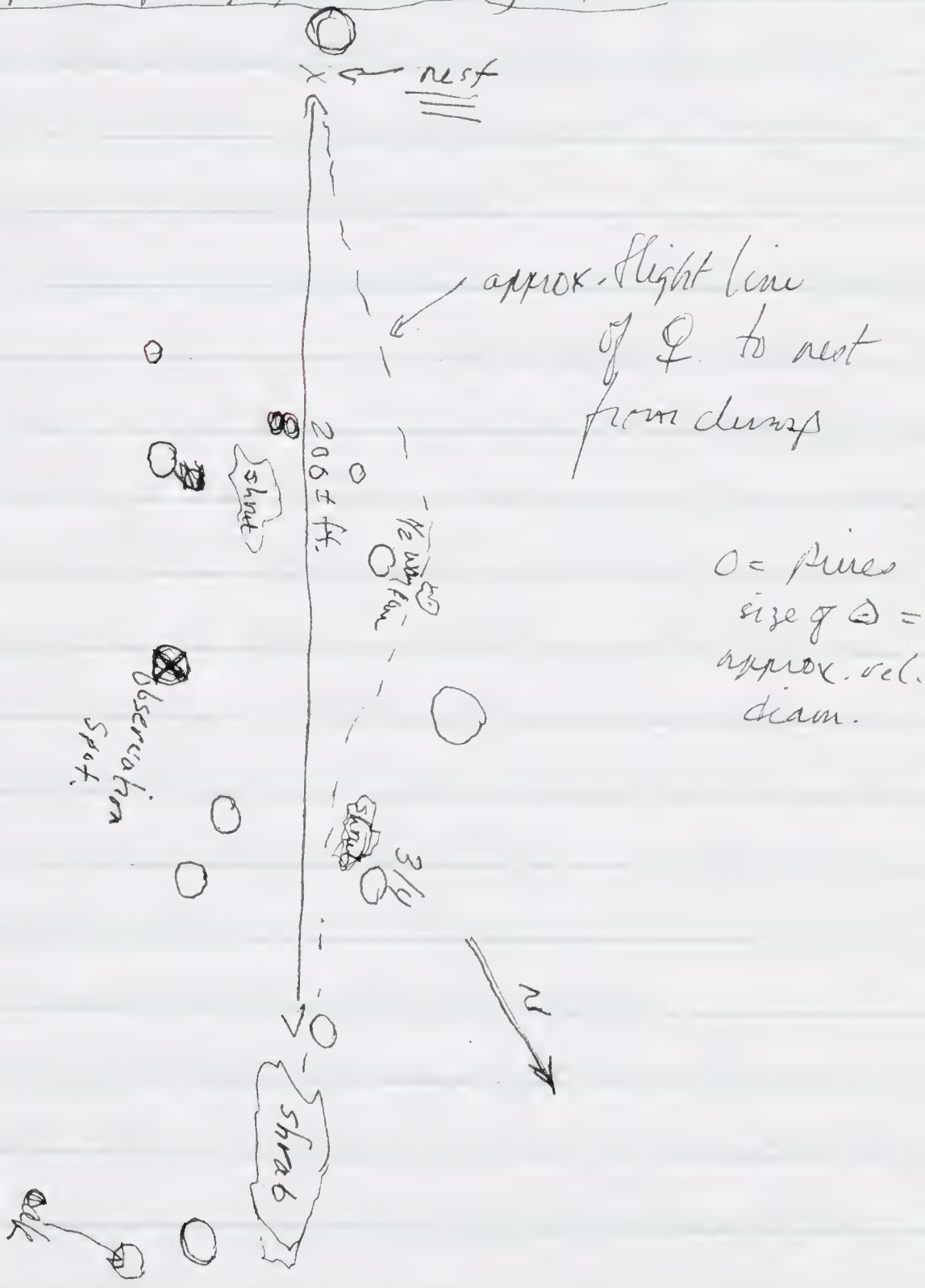




LL Wolf  
1964

*Amorpha aestivalis*

June 30 1 mi. S. Boykin Springs, Jasper Co., Texas



○ = pines  
size of ○ =  
approx. rel.  
diam.

← Yesterday's  
nest





LLW  
1964

*Aimophila aestivalis*

June 20

1 1/2 mi. S, Boykin Springs, Jasper Co., Texas

Stopped along road where heard ♂ singing up slight dry hill. Country was open long-leaved pines 50-75 feet tall. Understory of grass, scattered shrubs.

Heard ♀ chipping so tried to collect her. Found her with katydid in bill so sat + waited. After much chipping, sitting quietly, + more chipping finally dropped to ground. I waited for her to fly up but she didn't in 15 sec. so walked over. She didn't flush. Backed off. Heard her chipping again + saw her with (same?) katydid in bill. Finally down to ground again. Walked over. Heard young squealing + finally flushed ♀ from nest. She darted off away from me staying on ground. Running crouched down + horizontal to ground. Stayed within 10-15 feet of nest while I suspected making churning noise.

Nest - on ground at edge of clump of grass. Some of grass forms sides + roof. Arch + rest of nest of firm grasses. Contained four young with eyes open + feathers fairly well developed - head + back covered.

Dick shot a ♂ + I got a female (soon to lay again) + a fledgling with her. Heard ♂♂ spaced about 100 yards along crest of hill. Dike back there tomorrow.





LLWolf  
1964

*Amophila aestivalis*

June 21

1 mi. S. Boykin Springs, Jasper Co., Texas.

0535 - ♂<sup>#1</sup> sang once. woods is wet. there is light in woods but no sun yet. ♂ sang for about 5 min. at 0540.

sun light on forest floor at 0552.

0555 - ♂ sang several songs from near nest site. when I arrived back at observation point ♂ began continuous singing from NW of nest. - no sign of ♀. ♂ still singing at 0612 + no sign of ♀. As I approached ♂ became silent + have heard nothing from him until 0630. when 3 songs.

0631.5 - singing TTT when I approached again quieted down.

0645 - 0705 - ♂<sup>#1</sup> singing to NE of nest ~ 100 yards. Each time I approach he stops singing + I have been unable to see birds yet this morning.

0712 - this bird now sounds to be across the road so it is most likely ♂<sup>#2</sup>. - prob. not

0716 - flushed prob. ♂<sup>#1</sup> from ground 100-150 yards NE of nest. found another ♂ to SE 300 yards.

0723. heard ♂<sup>#1</sup> sing one song + continuous song from nest area of June 19. As I approached ♂ flew up into tree + began singing loud songs. Can hear another ♂ several hundred yards to SW singing.

0730 - ♂<sup>#1</sup> still singing from top dead branches (5-6' up) of shrub. 0731 - ♂<sup>#2</sup> counter-singing with ♂<sup>#1</sup> who has now moved some to N of last location. when counter-singing the songs of the two ♂♂ do not change in unison altho both seems to have repertoires which include the same types.





LCWolf  
1964

*Aimophila aestivalis*

June 21

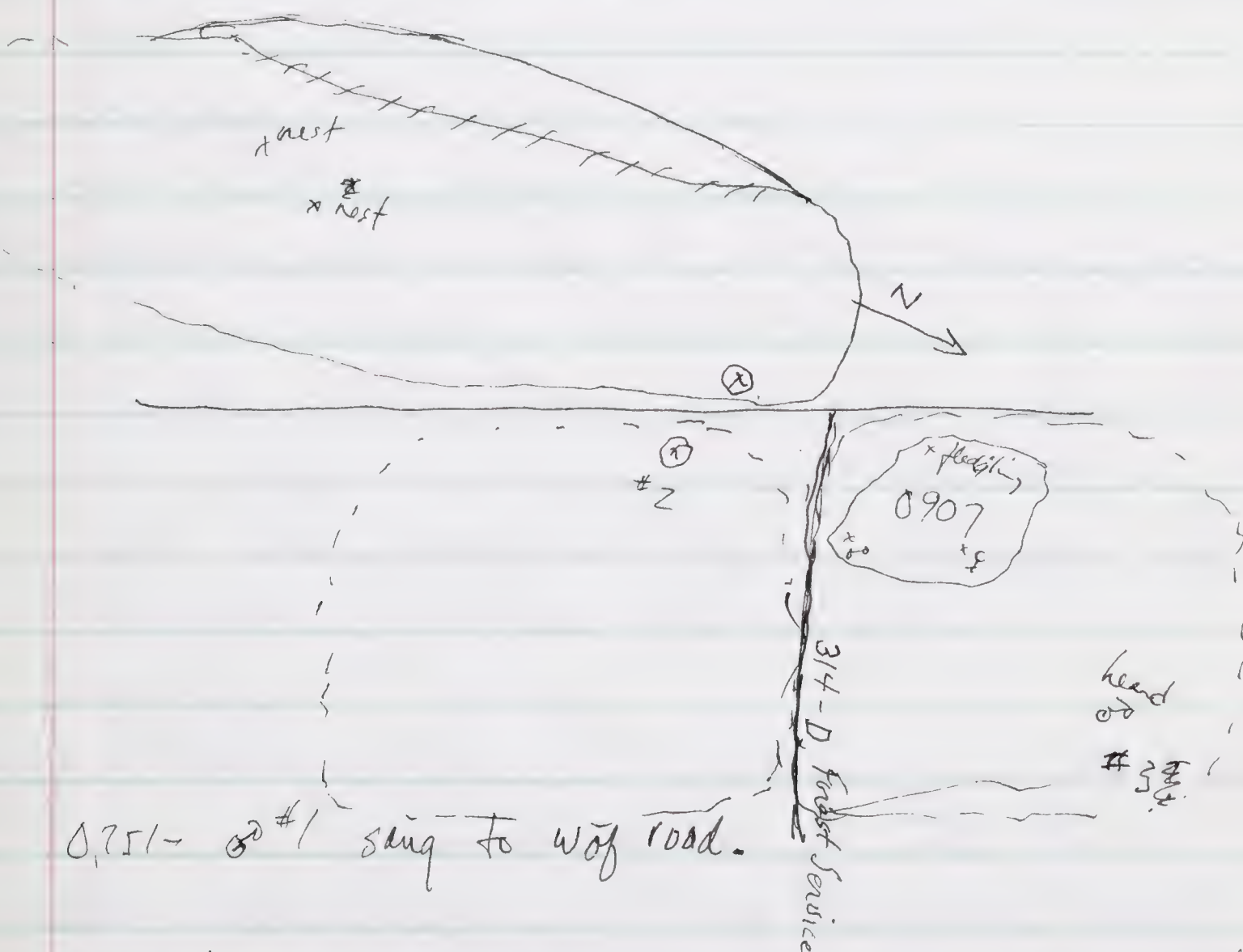
1 mi. S. Boykin Springs, Jasper Co., Texas

♂ #1 moved farther to NE + two ♂♂ seem to be approaching one another. - 0735.

0743 - I walked out to road + down to crossroads.

♂ #1 sitting on dead limb of pine 15-20 feet up (2-3" dia).

He dropped to ground 30 feet to NE + only 10 feet from road. At same time another bird dropped into grass about 20 from road, but on other side. Road seems to form natural boundary between these 2 territories.



0751 - ♂ #1 sang to w of road.

0815 - finally went up to check on nest. it appears finished the cup is neatly lined with fine grass and oak also composed of grasses. Again used dead grasses + line of drooping portion of grass clump as top + sides of nest.





LL Wolf  
1964

*Aimophila aestivalis*

June 24

Lair S. Boykin Springs, Jasper Co., Texas

0825

walked over to area of #3. one bird flew down to base of shrub clump. began chirping. I am standing nearly between 2 birds that are chirping.

0828- ♂ #2 gives one "continuous song" from just across road (314-D). In corner of plot bounded by "main" road + 314-D (area of #3 - see map) found bird that had dropped to ground. Was chirping occasionally as it hopped thru grasses moving from shrub clump to shrub clump. At same time can hear another chirp close to road - probably a ♀ + fledgling.

0842 - heard ♂ #1 give several songs.

0844 - adult flew up from area near where last seen + perched on dead pine limb (10' up; 1" dia.). chirping excitedly + bill-wiped 5-6 times in succession then twice more after short pause. tail is cocked, feathers slightly fluffed. changed to near end of perch - chirping decreased. still tail going from slightly to nearly fully cocked (50° to 150°). up to another twig (1/2" dia) where still chirp, tail cock + down to near in body axis.

0847 - fly to E + perches 10' up at end of 15" stub (1 1/2" dia) where hum + chirp. thought I heard another chirp to S.

0855 - another adult flies into dead limb perch (6' up) + gives several chirps. ♀ still perching with occasional hums when tail fully cocked + much rocking of head + body. 2<sup>nd</sup> bird flies on to S. & hear song from there answered by ♂ #1.

♀ flies by several jumps over in that direction. probably very close to 314-D.





LLW 1/4  
1964

*Amphispiza aestivalis*

June 21

Int. S. Boykin Springs, Jasper Co., Texas

not sure whether ♂ #2 belongs to this ♀. ♀ closer to road. Bird not sure which one now perched near end of 3 foot limb (15' up 1 1/2" dia) very close to road (314-D). tail cocked & changing directions on perch with chips every 2-3 seconds. ♀ was moving three trees at about 20' pp.

0905 - bird leaves perch & chipping less frequent.

0907 - ♀ now 30 feet up among needles but using bare areas of branches. flies to N. now can hear 2 birds chipping.

One is 25 feet up at end of dead pine branch to S. other is 50-60 feet S of road 8 feet up & next to trunk of 25-30 foot pine. limb is alive but is bare next to trunk.

0915 - have lost sight of both birds but can still hear one chipping just S. of 314-D. In lower dead limbs (0918) of live oak. Limb used is 3' up, 4" dia & dead.

0930 - flushed one bird from east of junction would not cross road (314-D) but turned back into woods. Undoubtedly a 3rd pair. 0933 - ♂ #7 sang from <sup>near</sup> ~~the~~ road. This must be ♀ I am following. ♂ #3 singing & sounds as if moving not from junction along "main" road.

0943 - heard faint rendition of continuous song. Then infrequent chips. approached shrub & one bird flew out to S. & lit on at base of another shrub. heard rustling where this bird had just left and saw another running in bare areas on ground in center of shrub. walked over & this bird flushed S to same shrub as one earlier. heard chipping from that area.





LLWof  
1964

*Amphispiza aestivalis*

June 21

1 mi S. Boykin Springs, Jasper Co., Texas

walked over to spot which is 50-100 feet N of 314-D + 100 yards ± E of junction. Birds seem to have reached extent of territory in this direction.

0950 - ♂ #3 begins singing from NE part of territory.

Within 2-3 minutes ♂ #3 begins singing + ♂ #3 is quiet.

0959 - flushed bird from near area in #3 where first flushed this morning. Flew off to WNW chipping, lit on dead pine limb 5' up.

1002 - bird ~~took~~ to NE (so 50 feet NW of where flushed) on tip of pine stub (18" long, 12' up, + 1 1/2" dia). This is a 2<sup>nd</sup> bird likely the ♂. ♀ is chipping about 1/2 sec. ♂ sitting quietly. ♂ moves 5 or 15 feet. Then 5 feet more, now on live branch just below needle tuft.

1008 - noted another chipping adult in center of shrub from which 1<sup>st</sup> came (prob. bird I have been referring to as ♂ is same as one 1<sup>st</sup> flushed). This 2<sup>nd</sup> flew up to dead stub (6' up 1" dia) where sitting with tail cocked + preening + chipping. 1<sup>st</sup> flew toward this bird + lit just NE of where 1<sup>st</sup> flushed. Then moved on - to where?

1020 - series of chattering notes from shrub clump. At each series the bird in the open + chipping begins to flick tail + bob on perch while changing directions. Bird noted at 1023 moving by hops thru grass between shrub clumps. Moved around outer edge of clump on ground.

1025 - ♂ #1 singing. Heard another series of chatter notes from in shrub.





LL Wolf  
1964

27

*Aimophila aestivalis*

June 28

1 mi. S. Boykin Springs, Jasper Co., Texas

bird on perch dropped to next lower stub (down 8") where still chipping tail not cocked as much, but occasionally brought up to full 60° or more. bird on ground is silent - probably the ♀.

1040 - after many intention movements - tilting forward, fluff feathers, flick wings & tail, bird on perch dropped to ground near base of tree where perched moved off to SE - can hear chipping from ground. 2 series of chips (soft) came from shrub. Went over to shrub & after careful searching for 1<sup>st</sup> min. found fledgling with tail just showing crouched on pine needles in shade of shrub. Caught it after it flew several times. 1<sup>st</sup> + longest flight was 15.20 feet. Land with flop & crouch down in grasses.

Adults stayed within 50 feet chipping excitedly with tails cocked.

1055 - ♂ #1 sang several times. 1107 - ♂ #1 launched into series of songs. First sounded almost like "continuous" song which undoubtedly is 2-3 songs run together.

1112 - ♂ #1 sang continuous song - 3 songs together - after being silent for 3± minutes. Then pause & 1 soft song.

1117 - ♂ #1 stopped singing.

1119 - ♂ #1 singing occasionally. - parents of fledglings still nearby & chipping, but chipping not as frequent.

1121 - ♂ #1 silent; ♂ #2 sings H#1 stops at 1122.

1157 - one of pair still chipping  $\bar{x} = 1/\sqrt{3}$  sec.





LL Wolf  
1964

*Ammodramus aestivalis*

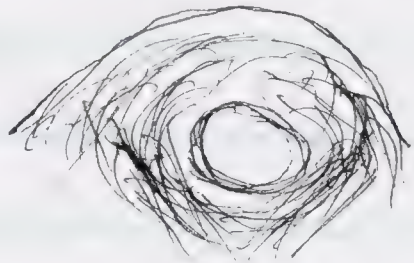
June 27 9 mi. E. Boykin Springs, Jasper Co., Texas

Nest — 7 cm. — front to back of cup. — bottom of cup to top of arc — 16 cm.  
6 cm. across opening.

16 cm. total front.

15 cm. total front to back —

cup scrapped out in sand.



few large grass stems (live) at back of nest.

top + sides of arc — pine needles + (large grasses (dead)).

interior of pine grasses as is cup lining —

faces to West area in front of entrance open for at least 12". Nest not fouled, but probably was used.

Dick found a fledgling sitting quietly in open at base of pine. Could fly 5-10 feet per try. Collected as both parents were dead.

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas.

checked young in nest. Nest faces to N. so essentially no sunlight during day. 4 young — feathers on back about 1/4" erupted from sheath. ♀ not around.





LLW814  
1964

*Aimophila aestivalis*

June 22 1½ mi. S. Boykin Springs, Jasper Co., Texas

checked nest 1 mi. S. - contained one white egg. <sup>no ♀ noted in area.</sup> This nest + one partly completed both opened to N.

nest with young; - this also opens to N. arrived at 0620.

4 young still present; all four crouched down when I tapped entrance to nest. ♀ is chipping to S. of nest.

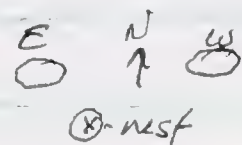
0628 - still chipping, but coming closer. not carrying food. morning is cool - 71°F. at 0500 with low level fog. adult now (0630) in tree above nest (25' up) chipping 1/2 sec.

when it flew into this perch much changing in direction on perch with wing flicking + tail pumping. head held up + body feathers slightly fluffed, also much bobbing motion.

0635 - down to 15' above nest in tree just to E. of nest.

still going thru all motions connected with high state of excitement.

0638 - moved over to E. side of E. tree



0640 now in line with main trunk + 12 feet up. on dead limb (½" dia). occasionally tilts head downward as if looking at nest.

0645. changed perches - back to W side of E. down slightly from 12'. chipping 1/2 sec.

0650 - changed perches 2 times in quick succession - to E on E.

0652 back to W side. still chipping 1/2 sec. with occasional bobbing accompanied by wing flicking + tail pumping.

0655 - down to ground where still chipping, but less frequently. went to ground about 10 feet E. of nest. Worked to N. toward me.





LLWKF  
1964

*Aimophila acitivale*

June 22

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

Came at least 30 feet so was within 10-15 feet of me hovering through grass. Chipping nearly stopped by 0700 then stopped entirely. occasional chips (0703-04)

0706 - can hear begging of young so adult must be at nest.

0707 - young quiet. loud chips by adult (+ bobbing + wing + tail flicks) 30 feet to NW. prob. same bird. on lowest dead limb (12' up)

(1/2" dia). 0720 - ♀ has disappeared + is now silent

0726 - chipping to S with food <sup>(Neuroptera?)</sup> in bill. Flies in to tree to NW.

Here for > 15 min. then to tree E. of nest. Finally (0757) to ground E. of nest. Still hear chipping.

0758.5 - quiet. 0759 - hear young begging, pause, then more intense begging. Quiet at 0759.5.

0805 - into E. with food. (grasshopper?) to W side. Down to ground at 0809. Still chipping. 0811 - hear young begging - ♀ flies off in 11 ± sec. to tree 75 feet to NW. Then to tree 30 feet to NW where bill wiped once + chipping loudly. 0813 - down to ground to E of nest. quiet + apparently foraging in grass around nest.

0821 - up into tree to NW with grasshopper(?). ♀ to tree E then down to ground (0831) to W. of nest. 0832 - hear begging of young. Heard single chip then (0837.5) heard young begging, then single chip. ♀ must have foraged off in grass + returned ~~to~~ nest without going up into trees.

0842 - faint chipping from vicinity of nest or beyond.

0849 - saw two adults - both carrying food in tree 100 feet N of nest. One flew into tree to NW. (30 feet).





LLW015

1964

31

*Aimophila aestivalis*

June 22

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0853 - hear young begging - continued for 2+ minutes. Adults must be approaching from 10+ yards on ground as no adult moved into trees above nest.

0901 - hear young begging

0918 - young begging. lasted for > 1 min.

0925 - have been hearing thin chips as if adult(s) foraging in grass in vicinity of nest. Not sure that young aren't making this noise.

0931.5 - young begging for 45± sec.

0950 - hear occasional loud chips to W of nest. 0953 - located adult with katydid(?) (green with thin wings) in bill about 40 yards to W. sitting in shade (6-7-8' up) in some species of short needle pine.

1004.5 - down to ground W of nest. had moved 15 feet closer. Adult at about 0955. Then sat chipping. Works toward nest on ground.

1007 - young begging. lasts for ~ 1 minute.

1042 - adult in NW (30') tree with food. Has been there 7+ min. chipping softly.

left area.

June 22

1 mi. S. Boykin Springs, Jasper Co., Texas

Went back at 1630 to check nest. Still contained one white egg, probably lay in early morning.





LL Wolf  
1964

*Amophila aestivalis*

June 23

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

Stopped on way to this nest site at nest 1 mi. S. Still one egg in nest. One adult ~ 50 yards to NW. Chipping from perch 20 feet up. Perhaps my checking contents has caused her to desert.

4 young in nest 1 1/2 mi. S. show marked crouching in nest as I approach. All 4 are facing to entrance 2 in front + 2 with heads on these positions.

0549 - adult into tree to W - 75 feet with katydid in bill.

Chipping excitedly. On dead limb (20' up 1/2" dia). To tree to <sup>S</sup>SW (0550). Up into tree W. - now 35' up. (1/2" dia). Other adult to lowest limbs of tree to <sup>S</sup>SW (15' up; 3/4" dia). Upper bird coming lower in W. 0552.5 - same bird drops to ground at base of tree W. Bird in tree to NW moves to end of limb.

0554 - young Begging. 0554.5 - adult flies from ground to NW 30-40 yards where chipping then back closer to nest to sit on top of 10 foot stub + chip. 0558 - leaves stub.

0559.5 - adult in tree to NW still there chipping softly occasionally. Other adult moves by me on ground ~ 12 feet away. Feeding bill. Chipping sharply. Chipping decreases both in frequency + intensity as ~~she~~<sup>it</sup> approaches nest. Usually silent for <sup>5-10+</sup> several seconds before hear young begging.

0604 - hear young begging - being fed by adult which approached thru grass.

0604.5 - adult in tree to NW drops to ground between trees E + W.

0606 - Hear young begging.

0607 - one adult flies 40± yards to <sup>N</sup>SW. Other 20 feet to East.





LWOLF  
1964

*Aimophila aestivalis*

June 23

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

the close to nest drops into grass still farther East + one farther away flies into tree nearby. Bird in tree flies between me + nest + lands 50 feet to N. of nest (25' up; 2" dia). then down to ground 20 feet to east of this tree.

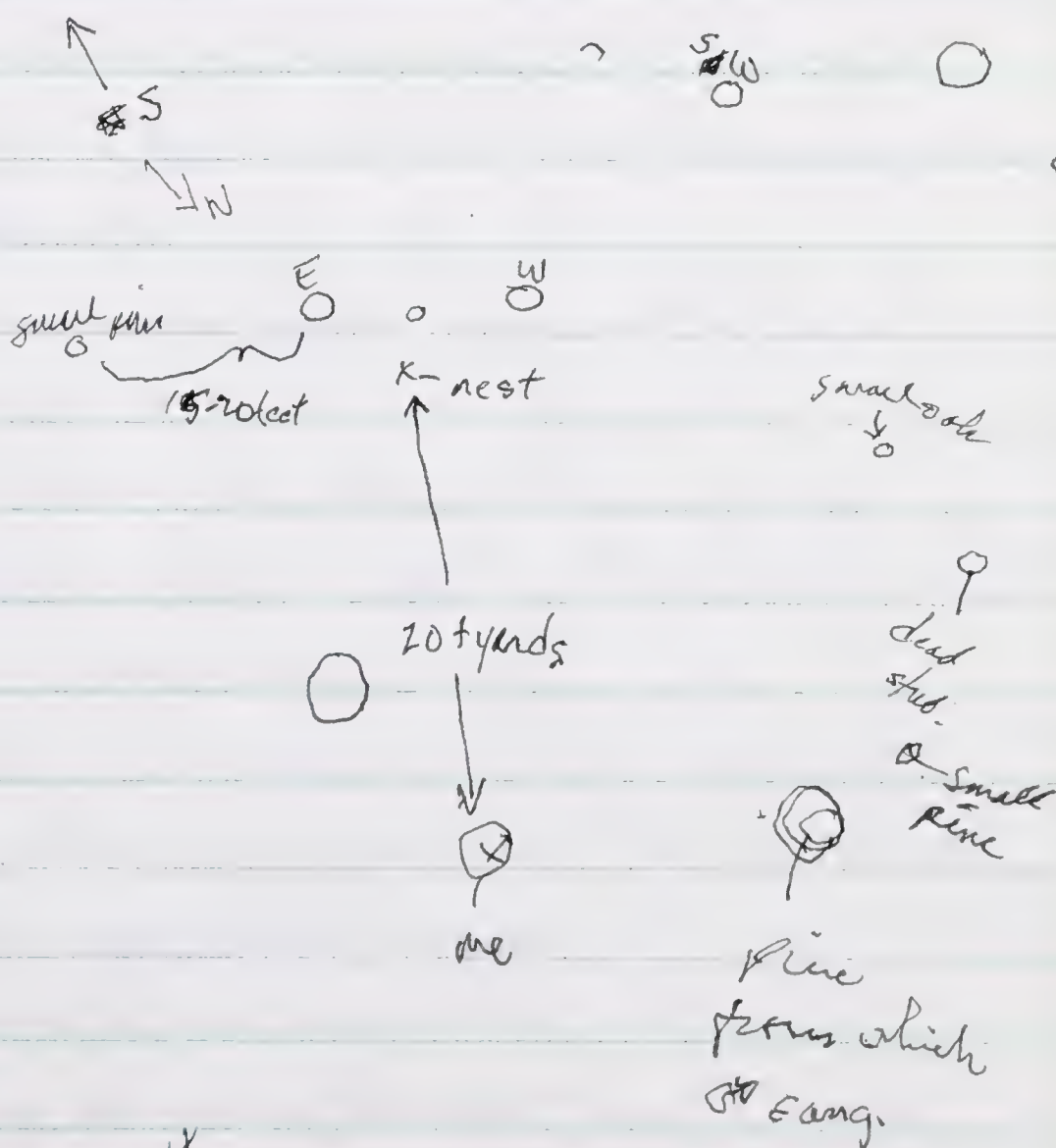
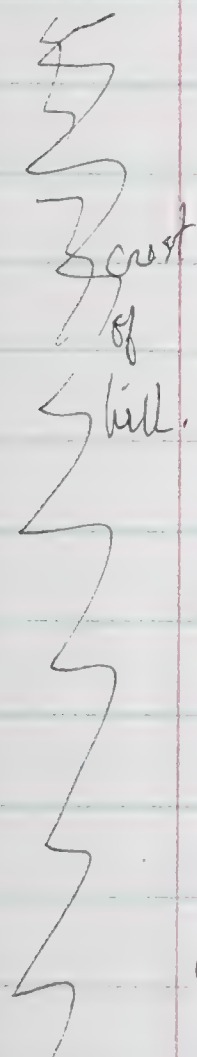
Now both birds on ground + silent.

0612 - Can hear another ♂ singing 100+ yards to east - just over crest of hill.

0613.5 - hear young begging for > 30 sec.

0616 - hear series of chitter notes off to NE of me 30-40 feet perhaps 2 adults met in foraging

0617 - short begging by one or two birds followed by sharp chirp from adult.



all N + S  
directions in  
notes are  
reversed.

most changed  
up to 0900  
when caught  
mistake





LLW01f  
1964

*Amiophila aestivalis*

June 23

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0621.5 - hear young begging + other adult flies into tree just E of me. (25' up). Then to tree between me + nest, 15-18' up; 1/2" dia.

0623 - short period of begging by young adult from tree between me + nest ~~flies to tree E~~. drops to ground after other adult flies up into tree E.

0625 - young begging with adult in E. chipping softly with food in bill.

0629 - young begging. adult still up in E. chipping softly.

0630 - I think adult which just fed young flies from ~~NE~~<sup>N</sup> of nest to disappear 50+ yards to ~~NE~~<sup>S</sup> of nest.

0632 - adult from E. ~~down to ground~~. hops into limbs on west side of this tree. back to center now only 8-10' up + quiet.

0637 - hear short begging period as one adult gives very short series of chitter notes.

0639 - see other adult in tree to ~~SE~~<sup>S</sup>. carrying at least a 2" katydid or green larva.

0642 - this adult flies up from ground near nest still carrying food lands in the W. adult in E drops 2 successive branches lower. one or both chipping softly.

0643.5 - adult in W drops to ground. 0644 - young begging for > 30 sec. then adult flies up from near base of W to tree to ~~SW~~<sup>S</sup>. - chips sharply several times + leaves.

0646 - adult in E changes positions several times + drops to ground. then flies up into tree to ~~SW~~<sup>S</sup> still carrying food.





LLW 14  
1964

*Amorpha aestivalis*

June 23

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0647 - back to tree W & then to tree E (15-18' up).

0651 - drops down to 7-8' up + near center of tree but on outer ends of branch. chipping regularly + bobbing c wing + tail feathers.

0652 - drops to ground at base of W. - other adult flies in to E from ~~W~~<sup>S</sup>.

0653 - young begging after short chitter series. 0654 - adult feeding flies up into tree W chipping sharply then leaves.

0659 - young begging for > 30 sec. 0659.5+ - adult flies from nest area 50+ yards to ~~W~~<sup>S</sup> where lost from ~~the~~ sight.

0701 - chipping adult into tree to W then to W then E. (0701.5)

carrying green larva or katydid. Bird on bare part of live limb (20' up; 1" dia.). looks to be a katydid for sure.

0706 - adult hops along limb toward trunk then drops to dead branches 7-8' up then to ground (0707).

0707.5 - young begging for > 20 sec. adult made several loud chips on approach.

0712 - hear young start begging punctuated by series of chitter notes - this repeated several times during which an adult flies into W. then > 30 sec. begging.

0713.5 - adult in W has food in bill; drops larva in tree. chipping sharply occasionally. other adult flies into E as 1st changes position.

0716 - 1st to ground & young beg > 30 sec. 2nd in E chipping as 1st flies off. 0719 2nd quiet.

0722 - series of chitter notes + 2 drops lower in E.





LLW018  
1964

*Aimophila aestivalis*

June 23 1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0723.5 - #2 drops to ground. hear series of chitter notes + begging

0724 - Young fed. adult flies out to small tree to E.

0724.5 - young begging again + bird in tree to E starts singing soft song.

0725 - flies to <sup>N</sup>NE to top of 7' live yucca - lands in top of arale cluster. can hear ♂ across hill crest singing.

this bird then flies to tree between me + nest (other ♂ still singing) then drops to ground.

0730 - adult flies in from SW about 50-75 yards carrying green insect. chipping sharply from tree 20-30 yards to SW flies 1/2 way to nest + land 7' up at top of small oak. on tree branch right next to leaf. Then drops to ground ~ 2/3 way to nest.

0734 - ♂ flies up from just behind me + sings once while loading food.

0734.5 - young begging. ♂ singing (3 songs) while ♀ feeding. ♂ to S of nest only 20 feet from me + ~ 15' up.

0735 - ♀ flies out to NW carrying a pearl sac. flies across road. 0736 - ♂ flies to ground 2/3 way to nest.

0736.5 - Young begging as ♂ feeds. He then flies off to SW 50+ yards where lands + sings once.

0755 - heard sharp chirp to SW of nest.

0758 - yg. begging > 30 sec. adult then flies to <sup>N</sup>NW into top of small oak then to top of dead 8' w foot stub. chirps sharply regularly then flies to ground at base of small oak.





LLWOF  
1964

*Ammodramus aestivus*

June 23 1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0802 - hear series of chitter & begging notes, but not enough to be sure that young were fed.

0805 - adult drops from 30 feet up in W to ground at base of E. adult near oak chips loudly, adult near nest chitter & then more chips from near oak.

0806.5 - Young begging > 30 sec.

0808.5 - sharp chips 1/2 ~ 2 sec. but not sure where bird is.

hear ♂ singing over nest of hill. bird is 12' up in tree to NW.

carrying insect > 2" long. holding by one end.

0811 - adult from <sup>S</sup> tree to ground.

0812 - young fed. adult did not fly off from area of nest.

0824 - heard occasional short series of chitter notes

while ♂ singing to <sup>S</sup>W.

0825 - young fed. adult then into tree to NW where began chipping. Heard start of ♂ song then chitter series followed by more sharp chips & several series of soft chitters.

0828 - adult from tree to <sup>S</sup>W to W to E. where chipping sharply then to small pine further east & finally (0830) to ground 20 feet east of nest. ♂ singing to <sup>S</sup>W.

0831 - both birds silent. 0832 - ♂ singing to <sup>S</sup>W. has food in bill. is 40-50 yards from nest. (15-18' up; 1 1/2" dia)

0834.5 - ♂ to 20 yards to <sup>S</sup>W of nest, sitting quietly

0840.5 - ♀ up into small live pine just west of me with grasshopper in her bill. As she flew up gave 2 sharp chips ♂ gave chitter series. ♀ on bare part of live branch (4' up & 1/2 way from trunk on 18" branch.





LL Wolf  
1964

*Aimophila aestivalis*

June 23 1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0844 - ♀ to ground working toward nest. ♂ silent.  
♀ now silent. hear <sup>2</sup>chitter series near nest, then young fed  
at 0845. ♂ still 20-25 yards to NW.

0846 - ♀ to tree to <sup>5</sup>SW when gave sharp chip. then began  
regular chips. to tree E (0847.5) to down to ground to  
<sup>5</sup>SW of nest + 25-~~30~~ feet at base of pine.

0850 - ♀ up into tree ~~to~~ NW of nest. Same to ♂ in. ♀ then to  
tree W. then to ground just east of tree E (0851).

0851.3 - hear chitter series then begging - not sure if young  
or adult makes this initial chitter.

0852 - ♀ up to tree to NW. hear soft chitter series. ♀ disappeared.  
♂ still in same place holding food.

0857 - young begging 230 sec. ♂ disappeared from perch.  
pause + then another bout of begging. adult then  
flew off to SW where sang ~ 20 yards from nest.

085901 - ♀ into tree to NW (actually SW) with food. chips near  
to W. 20-25 feet up.

0902 - ♀ dropped to ground + fed yg. then quiet

0907 - adult up from ground near base of tree to SW + flies with  
single chip into tree W.

0910 - adult to ground then walks 5-8 feet east in < 30 sec.  
+ feeds young. 0911 - flies out to tree to SW + gives  
several sharp chips.

0913 - adult drops to ground 10-15 feet farther SW of nest.





hL Wolf  
1963

*Aimophila aestivalis*

June 23

1 1/2 mi. S. Boykin Springs, Jasper Co., Texas

0923- adult up from ground near base of tree to SW. lit in tree with food in bill. looks like two walking sticks both hanging from same side of mouth. 0928- returned to observe after several minutes of ~~waiting~~<sup>talking</sup> for Dick. # adult sitting on tree to SW with food in bill. silent, except for occasional soft chips.

0937- young begging. one adult (prob. ♂) still in tree to SW, chipping occasionally.

0939- adult (SW tree) to ground.

0941- hear several series of chitter notes + young fed.

0942- an adult from east up into tree between me + nest.

young still begging. adult not carrying food. few more begging notes + 2<sup>nd</sup> adult flies up from just W of nest to tree to SW. sings + hear series of chitter notes. Adult 2) (closer to me) flies down to ground NE of nest (0945). ♂ still in tree to SW + sings //

0953- adult into small pine (2' up) just SE of me. looks to have 3+ inch walking stick in bill. Chipping occasionally.

1000- adult gone from tree to SW. several series of chitter notes - one from that bird + one from bird heard following former. Then bird seen on down into grass.

1002.5- quick series of chitter notes then young begging > 30 sec.

1003.5- adult flies out to W. carrying fecal sac. appeared to stop ~ 100 feet W of nest.

1005. sharp chips from west answered by chitter notes from ground near nest. adult into 10' dead stub. not carrying food.





LLWLF  
~~Jan~~ 1964

*Aimophila aestivalis*

June 23 1½ mi. S. Boykin Springs, Jasper Co., Texas

1009- young begging > 30 sec. adult on stub chipping more frequently than just prior to begging.

1011- adult leaves stub & other flies up into pine fir tree of me & sings once (♂). then silent. 1012- down to dead limb closer to trunk 15' up (1" dia). 1013- flies off to N prob. to ground after one more soft song.

1015- adult forages past me in grass. Walks thru dense grass when moving slowly but regularly. hops across open spaces & when moving faster. Heard craching of grasshopper & then saw adult pick up 4-5 inches at weed leaf. Missed & continued on.

1017- flushed insect & flew after it just over top of grass. Dropped back into grass after ~2 feet.

1019- up into lowest branches (10' up) of pine between me & nest. had one (2?) grasshopper in bill. ♂ sang just behind me.

1024.5- Dropped to ground at base of this tree. now silent.

1025- Yg. fed. - ♀

1026.5- ♀ up into tree just east of me. ♂ sang once ♀ gave short, soft chitter series. then left. can hear tzeep notes from behind me in direction of ♂.

1032- after I walked to take photos of nest adult (♀?) flew up in tree to NE & began chipping. When I returned to observing area she circled on both sides & behind me before flying 2' into small oak ~5' away. Then into pine bow of me where silent.

1036- Dropped into grass at base of this pine.

1038- young begging but not sure if fed.

1039- another short bout of begging.





LL Wolf  
1964

*Amiophila cinctivalis*

June 23 1½ mi. S. Boykin Springs, Jasper Co., Texas

1041 - adult flew up from near nest sharp chips - answered by chatter from ♀ ~ ½ between base of pine + nest. ♀ then fluttered 2-3 feet across tops of grasses chasing an insect. ♂ had apparently fed yg. 1042 - ♂ sitting above me just to east ~~while~~ <sup>soft songs</sup> singing while ♀ forages. hear soft + buzz from ♂ + soft chips - often in series from ♀.

1045 - ♂ singing soft songs. ♀ chattering softly or simply chips. flies up from grass + lands on ground 10 feet W of nest.

1045.5 - yg fed by ♀. ♂ soft songs.

1047 - ♂ to NE 30 more feet, sings once from perch 5' up then drops to ground.

left area.

1730 - back here to collect adults. chased ♀ around + finally collected here after she flew up from ground to near top of 40 foot pine. Went over to look at young. As picked one out of nest - all flew from nest. Managed to catch 3 amidst much chipping + squeaking. Dick shot an adult + then heard another adult chipping excitedly. Finally located just over our heads about 75 feet E of nest. Collected + proved to be another ♀ likely attracted by chipping of young.

Also collected another ♂ to ~~SE~~ SW of ♂ #1.





LL Wolf  
1964

*Aimophila aestivalis*

June 24

1 mi. S. Boykin Springs, Jasper Co., Texas

21 x 16.5, 21 x 16.5, 21 x 16.5 - measurements of 3 eggs  
in nest. adult - ♀ - incubating at 0745. allowed

approach within 18" + then fluttered off nest + threw  
grass. Once fluttered in what appeared to be broken-wing  
display, but hard to tell as she may have been fluttering  
across clump of grass. While I measured eggs she stayed  
within 5-10 feet giving soft "churring". Sounds like  
gravelly "meow" of cat. Probably 3 eggs is the total for this  
second clutch.

1





Wolf, L.H.

1963-1964

Aimophila botteri





2265015  
1963

*Amphispiza bilineata*

June 27 1 mi. W. Ft. Huachuca, Cochise Co., Arizona

at least 2 singing ♂♂. one in overgrazed grassland partly grown up with perennial weeds. also scattered patches of Sacaton grass & mesquite. ♂ singing from 10 ft above ground in bare (dead limbs) of mesquite. dropped into grass at base of mesquite & foraged. generally on open spots. tried to record, but battery too low so collected bird.

2nd ♂ is in fenced area with grass foot or more high. sings from dead shrubs or taller weed stalks. flight song generally given just before landing & seems to be same as perched song. songs also given from ground. heard flight song just at end of sexual chase. apparently ♂ chasing ♀, started from pair together in grass then flight just over top of grass & drop back down.

birds (this pair) have been seen in area 60 x 40 yds. ♂ alternates singing with foraging. Generally song bouts last only 2-5 songs. ♀ makes appearance only infrequently, mostly foraging in grass. no sign of young or feeding young. - I wonder if they have started nesting yet.

When singing ♂ elevates head only slightly above normal sitting posture. when singing in trees is always in bare limbs.

0710 - both members of pair fly to new field - one follows other by 1-2 sec. & lands slightly farther on than 1st both land on exposed grass stalk. one then drops into grass. action of 1st not seen.





LL Wolf  
1963

*Arreophila bottcheri*

July 22 12 mi. N. Tepic, Nayarit, Mexico

found group of 3-4 singing ♂♂ spaced at 25± yards from each other on eroded & stream dissected oak & weed & grass hillside. singing ♂♂ collected were on dead branch near top of 10 foot oak.

John Hubbard characterized song like this

dit dit whit whit chir chir seet seet drill

often given in parts & without drill. This is full song. Hesitant & deliberate in beginning.

July 23 7 mi. N. Tepic, Nayarit, Mexico

In weedy grassland with scattered emergent shrubs & woody weed stems. ground cover is approx. 75%. grass up to 15-18 inches tall, but averages less than 12 inches. ♂ singing at 0500 branch dead branch on stalk 3 feet high. Another ♂ begins singing to S ~ 75± yards + 1st ♂ flies to NW 100 yards. sings, then to spot 1/2 way between 2 perches. singing in flight just before landing on 3rd perch then just continued regular song upon landing.

while perching gives occasional high sharp 3-4 notes like introductory notes - usually in pairs. 3rd perch is in top of 2 1/2 foot shrub which is 1 1/2 - 2 feet above level of grass.





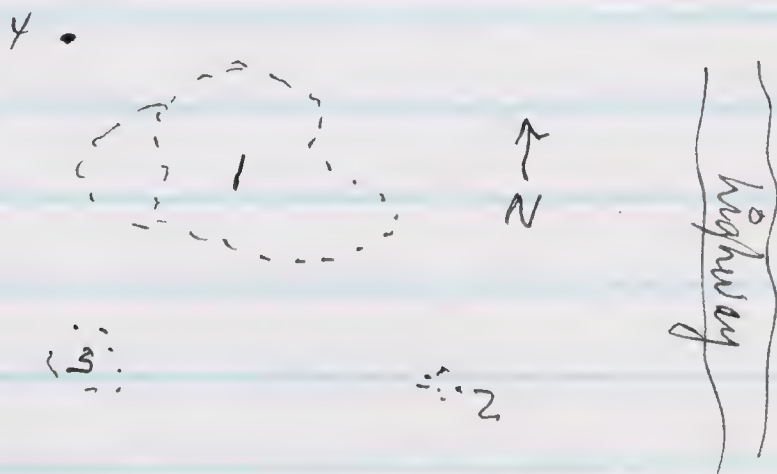
LL Wolf

1963

Aimophila *betherii*

July 23 a 3<sup>rd</sup> ♂ has started singing to SW. - 3 ♂♂ are in a Δ.

#1 - now (0615) in tree 100 yards N. of original location. 1 foot from top of 10-12 foot tree, then moves up to exposed perch - not highest, but highest horizontal. 1 song went continuously for 17 sec. + ended in 2 <sup>sweet</sup> ~~notes~~ notes after the trill. 0620 - changed perches in tree - sang one song then sang again as flew down to ground. sang another as flew up to 1 1/2 foot horizontal, bare branch of shrub. now have a 4<sup>th</sup> ♂ singing to NW of #1



#1 ♂ to S. 30+ yards to top of 2 1/2 foot shrub - again singing  
♂ #4 still singing + I thought ♂ 1 had gone to this area to  
sing "against" ♂ 4. ♂ 4 now quiet (0625) as are ♂♂ 2 + 3.  
Perhaps #1 is an unmated bird.

0630 - ♂ 4 singing very low intensity 75+ yards to NW  
of #1. #1 down into grass + #3 begins to sing. #1 back  
up to same perch singing just as lands. - facing to NE.  
♂ 4 still on horiz. perch to NW. his "song" consists mostly  
of faint chips. ♂ 1 flies in flight song ending just in





LLWJF

1963

*Aimophila borderii*

July 23

he arrives to tree on N. edge of his territory. ♂ 4 then sings two full songs & goes back to chirping. ♂ 1 sings 3-4 songs & flies back to east of perch 2-3 minutes earlier. ♂ 2 & 4 both sing several times. ♂ 1 back to shrub from which left for tree. 0639 - ♂ 4 has ~~left~~ left his perch.

Day is very overcast - rained last night. Breeze has come up at 0640.

0642 - ♂ 1 still on shrub singing. all other ♂♂ quiet. ♂ 1 occasionally changes direction on perch so facing either ♂ 2 or 3 & ♂ 4.

Songs  
4/min

0645 - sang 4 songs in one minute. changed position twice during that time.

from 0645-0650 ♂ 4 was back up on perch, but not singing. flew silently down to ground.

0650 - ♂ 2 singing to SE of ♂ 1

so far no sign of ♀.

0653 - ♂ 4 back up but not singing - is 100 yards to NW of ♂ 1.

0655 - ♂ 4 begins singing from near top of dead shrub 2½ feet high. almost due west of ♂ 1's tree.

0655 - ♂ 1 left perch for 2 min & returned.

to my ears song of ♂ 1 very stereotyped. may have added few notes or subtracted but were notes still present. So just added or subtracted from basic pattern. no change on that.





LHW 8/8

1963

*Ammodramus botteri*

July 23 7 mi. N. Tepic, Nayarit

#2059 - pin feathers on crown + up. tail coverts.

few new on lower back. vest worn

put one Mallophaga in ~~jar~~ vial in stomachs.

July 23 <sup>30</sup> 9 mi. SE. Tepic, Nayarit, Mexico

Driving along John heard sparrow chirping by stone fence.

Proved to be two botteri + one A. ruficauda facing each other + separated by 6-8 inches - chirping excitedly.

As I approached botteri's flew into grazed field + ruficauda flew into trees along stone fence. When further pursued it flew into brush along gully + hid against bark. Could see it hopping back + forth in vegetation.

Finally collected 2 botteri Sparrows in tree in another small gully. One flushed into tree from ground nearby just before I shot.

Breeding just starting as evidenced by ruptured follicles in ♀ collected

July 28 31 mi. NE. Autlan, Jalisco, Mexico.

At least 2 singing ♂♂ in pasture + farmland along road. One collected while singing from fence post in pasture. Another singing from top of 4 foot dead sticks in a cornfield. Corn about 2 feet tall.





LLWVF  
1963

*Aimophila betterii*

July 30

30 mi. NNE. Guadalajara, Jalisco

Found 3 singing ♂♂ on plateau above Barranca de Oblatos.  
were in grazed pastureland with scattered shrubs + trees.  
2 seen were on dead, exposed limbs singing. Birds  
were spaced at least 75-100 yards apart. Saw no ♀♀.

August 6

~15 miles W. Azucar de Matamoros, Puebla

♂ singing from electric wires along road in  
thorn scrub with well-grazed grassy substrate.  
Song was similar to birds around Tepic, Nayarit,  
but lacked trill on end.





LL Wolf  
1964

Amphispiza bilineata

July 7 Laguna Atascosa Refuge, Cameron Co., Texas

Only found these birds in bunch grass - short mesquite association. In junco range area encountered on scattered solitary birds, but many Cassin Sparrows.

Around Laguna Atascosa ~ 2 mi. W of headquarters found colony of 6-8 ♂♂ along the road. Seemed to be in pairs but saw as many as 7 together. Watched several long chase flights ending in short mesquites. Saw one bird perch in mesquite on bare limb with another bird lower  $\pm 2\pm$  feet away. 1<sup>st</sup> cocked tail  $\sim 20^\circ$  + lifted head, held wings slightly out from body + fluffed plumage slightly. Shook wings. Vocalizations ?? Probably a precopulatory display, but when 2<sup>nd</sup> bird approached both flew off. Heard several chitter "duets" as 2 birds lit together (6-8" apart) in short mesquites. Also similar call when resident ♂ flew in close to chase off intruding ♂.

Another song which we recorded after playing back the song ending in a trill was a continuous series of notes similar to beginning of regular song but never breaking into trill. Seemed to be much softer than advertising song. Also heard several flight songs - all <sup>of same</sup> type as advert. song. ~~The~~ The one was just a rapid series of soft chip notes as bird flew away. Flight song in this species is given on horizontal flight + does not involve the abrupt vertical component of A. cassinii.

Have only heard advertising song otherwise from elevated perches. Mostly mesquite from 3 - 20 feet tall.





LLWolt  
1964

*Aimophila* *botherii*

July 7 Laguna Atascosa Refuge, Cameron Co., Texas

Usually given while perched in exposed position on dead limb.

1630 - Bird upon dead *Celtis* - 1<sup>st</sup> 3 feet up then 6' up - giving series of tzee chip notes. sound metallic; also seem to vary slightly in pitch giving a rolling effect to long series. Was at top of branch. Then dropped into grass. When flushed flew to N toward Laguna Atascosa for 30± yds. Had trouble flying in wind.

Pumping flight. lit 18" up on horizontal portion - bare - of 4' mesquite. sang warble song that contained many tzee notes. Was just above tops of grass.

1648 - same ♂ up singing on top of 6', dead *Celtis* 20 yds to E of where last seen. Then flew farther east 20± yds + dropped into bunch grass, dropped nearly vertically.

1651 - upon top of dead *Celtis* perch 20± yds. farther E. singing continuous song - series of tzee notes with occasional changes to more musical notes + more rarely a dry trill.

1654 - dropped into grass + silent. Wind blowing at 15 mph with stronger gusts.

1656 to 1702 - up in top of dead shrub singing continuous song. Then flew SW for 50± yds + dropped into ~~mesquite~~ bunch grass around some small mesquites.

1709 - Then 20± yds. to SW farther + dropped into area surrounded by bunch grass but with some bare ground + small *Yucca* (18") + composites. Heard squalling sound + as I approached two free grown birds flushed out to SE to small mesquites 10 yds. away.





LLWOLF  
1964

*Aimophila borderii*

July 7

Laguna Atascosa Refuge, Cameron Co., Texas

One gave series of tzeek notes + then both flew to dead upper branches of 3' Celtis. Then (1710) to dead Celtis to NE 10 yds. where one bird sang continuous song. One dropped into grass.

1722 - bird began tzeek notes then flew to E 20+ yds (1723) to land in ~~middle~~ top of dead shrub branch. Hit on horizontal portion (2" dia) (5' up). Calling softly tzeek notes.

1729 - bird 20 yds to S. (possibly one of two seen earlier) flew up into mesquite giving rapid series of tzeek notes + flying in short stroke, level body, fluttering fashion. Hit on top of 7' mesquite + broke into song. Then (1731) silent. Was on bare of 60° mesquite branch.

1731 - bird to E (one there at 1722) began singing continuous song from top branch of 6' dead Celtis. vertical perch, but must have short horizontal branch as bird appears to be on horizontal perch. Then to W (15+ yds away from me) still singing then W again to 60± yds away. Each time landing on top of dead shrub. Last flight was fluttery (flying with wind). Sounded like another bird gave series of tzeek notes as 1<sup>st</sup> bird flew to the 2<sup>nd</sup> time.

1745 - (another fern) bird in 3' mesquite on dead branches, chipping with occasional wing flicks. Had food (walking stick?) in mouth. Finally ate food + bill - wiped at several positions on branch then sat chipping + preening until 1800 when disappeared while I was writing notes.





LLW014  
1964

*Amphispiza bilineata*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas.

0545-600 adult up on dead upper branches of 3' Lycium chipping + going thru tail cocking + spreading, wing flicking, + slight fluffing of plumage. Both wings for short time + spent most of time preening. Changed perches several times but only once into branches of live, 4' mesquite.

0600- down to ground until 0601. Then back up into Lycium where preened + gave excitement display again.

0605.5- down to ground around base of Lycium area here is covered with composites + grasses other than bunchgrass.

0607- back up into Lycium where chipping excitedly with small green Orthopteran in bill. Finally flew to dead bush 10 + feet to W of Lycium. dropped down behind + came up without the food. Did not bill wipe. Then back to Lycium in upper branches on W side.

Changed to E side & I saw movement at live base of Lycium + Cactus

When worked up to top. Sparrow then displaced it from one perch + then a 2<sup>nd</sup> from which were flew to an Agave 25± ft. to SW.

Followed by sparrow. which did not displace when a 3<sup>rd</sup> time but sat quietly in the Agave. Another Sparrow flew by going SW + lit 20± feet to WSW of Agave - my bird flew over to nearby same spot with rather fluttery flight. Heard chatter "reunion" call as bird landing - sounded like single bird. Both sitting above ground in clumps of bunchgrass. One flies off to W as hear another bird giving tick notes down then. Then back. At meantime other has obtained a walking stick-like organism which is carried in bill. 1<sup>st</sup> then flies to E 75± yds. where singing as

Laguna



#2



dead bush  
20-30 Yd. N

#6



mesquite

#5



mesq.

Acacia



#3



mesquite



#4

"nest"

#1



Lycaena

road



LHW:LF  
1964

Aimophila *botteri*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas

general singing by several ♂♂ begins (0625).

0633. food gone, probably not to young and ♂ back into Lycium.  
other bird (♀?) 20-30 yds. to N in dead 3' shrub carrying food.

♂ down to ground SW of nest - hovered for 1-2 sec just at  
grass level before dropping down. Reappeared <sup>10' away</sup> around dead  
bush, then disappeared again. Flew up to 2' mesquite & then  
gone again. ♀ flew into Agave 10 yds. south of "nest".

sat at tip of leaf near top. Then back to dead bush 20-30 yds. N.  
Back to Agave at 0638 where sat chipping - still carrying  
food. ♂ into dead bush 20-30 yds. N & sang for 10-15 sec.  
then flew 10-15 yds. to NE & dropped into bunch grass at base  
of 2' mesquite. (0640).

0642 - ♀ still in Agave.

0647 - ♀ in Agave but food gone - she prob. ate it - & preening.

0652 - ad. into #1 carrying food (grass/oxen?) & one from Agave  
flew to #2 then to E 20± yds & dropped into bunch grass.

Ad with food over to ~~W~~ side of #1 where changed perches several  
times chipping regularly. Then over to ~~W~~ E edge of #4 & finally  
jumped & flew into top of clump of bunch grass just S. of #4. Then  
flew out of the 10-15 sec & sat at E edge of #4. Then over to  
#1 where sat on wedge chipping occasionally.

0700 - walked out to supposed nest site & found deep grass  
nest placed in top NW side of clump of bunch grass. Stems of  
grass overhang nest. Only one young in nest. Has flight feathers  
just emerging from sheaths & dorsal tract feathers also. Looks pretty  
naked.





LL Wolf  
1964

*Aimophila betterii*

July 8 Laguna Atascosa Refuge, Cameron Co., Texas

When I walked out ad. flew from 1 to 2 + chirped constantly. Then back to #1 when sat chirping  $\frac{1}{2}$  sec. + preening.

0706 - This adult flew off to SE. rest of Betterii in area are very quiet. In fact the only noise is the "chirping" of an Eastern Meadowlark. wind started picking up ~ 0645.

Is not constant yet but gets up to 5 mph.

0713 - ad. with food flew in from 75 $\pm$  yds E to #2. Had been sitting in top of dead, 3' bush. Other adult immediately flew in from SE + lit just above #1 in #2. Then chirping series as ~~the~~ reunion call - again sounded like only one bird.

0718.5 - both flew toward nest. one with food to #3 + other to #1. Bird in 3 chirping softly from top center. In #1 chirping + preening.

0720 - ♂ flew from #1 to #2 - flight straight with rapid wing beat (almost fluttery flight). lit + cocked tail 60°. ♂ began to sing to W + this ♂ (#1) also began to sing. ♀ still in top of Agave chirping. ♂ then flew NE to land in bunch grass.

0723 - ♀ with more floppy flight - tail preening to #2. left as Sturnella magna worked up from base to <sup>1/2 way to top</sup> of #2.

0728 - Both Birds flew into #2 from NE. one 10-15 yds other 20-4 yds. No reunion chatter when came to #2. Both bill-wiped on branches of #2.

0729 - one flew up to #1 when sat on E side chirping + preening then over to W side again chirping + preening.





LLWOLF  
1964

Aimophila *botherii*

July 8 Laguna Atascosa Refuge, Cameron Co., Texas

0731.5 - ♂ on S side of road gives long series of tzeek notes very rapidly - almost sounds like reunion + then begins continuous song. Bird leaves #1 + one appears at top of #2 carrying food.

0734.5 - bird with food in floppy flight from #2 to #3. lit on tip of leaf on E side.

0738 - ♂ singing to S. of road. Prob. same ♂ as at 0731.5.

0744 - ♂ came in from E carrying food. chipping as flew in to land in #1. Other bird (♀) immediately flew from #3 to #1 + one gave rapid series of tzeek notes as reunion performance. ♂ then to W. side of bush where tail & wing flicking. Flew to just E of nest (0746.5) then to just N. of nest then flew up + dropped into nest. Other bird moved to center of #1 still chipping. ♂ out from nest after 30± sec. + sat on dead branch just to E (where lit on way in). then over to #1. ♀ hopped + flew to top of mesquite at #1. then over to #3 when ♂ moved to E side of #1. where sat preening + chipping.

0751.5 - ♂ to SE to just across road (50± yds from nest). + lit in top of 2' weed.

0757 - ♀ dropped down from #3 as truck passed on road. also got short burst of song from ♂ just S. of road as truck passed. ♀ probably led you back toward perch #2 + she now (0758) flew from here to E 50-60 yds + dropped into bunch grass.

0801 - Bird flew from #2 to E, but not sure if ♀ or not.





LLW:lf  
1964

*Aimophila borderi*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas

long flight

0804- ♂ in Agave 100 yds ~~to~~ E of nest - singing as flew in & continued singing - mostly continuous song, but gave one trill. then (0805) flew to #1 where sat chipping ( $\frac{1}{2}$  sec.) + occas. tail & wing flick. then to W side #1 where sat ~ 2' up chipping - ♂ to S. of road singing

light  
intensity

0811.5 - finally flew to #4. before flying changed perches several times. Generally sat very quietly with regular chipping. Just prior to flying to new perch or to new bush would begin rapid series of tail cocking & spreading (flicking) - which increased to where also wing flicking & changing directions on perch. then to new spot where sat quietly again. When on #4 sat for several minutes then to another perch just S of nest. then dropped down to E & worked just below grass level to 1' ± from nest. then flew up to nearly top of grass & dropped down into nest. at nest for 44 sec. flew out to NE & circled around to #5 where dropped fecal sac.

0815 - back to perch #1 & then disappeared, probably off to E.

0824 - adult into Agave (#3) where chipping. does not appear to be carrying any food.

0826 - dropped down from Agave still chipping.

0827 - worked back to top of Agave.

0828 - other adult into #1 with food in bill. ad from 3 flew over to #1 & gave reunion chatter. then flew E 20+ yds. & lit in grass. ad. with food flew over to W side of #1 where sat ~ 2' up chipping softly. Sitting still.

chatter





LLWof  
1964

9

*Amophila botterii*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas

0831 - out from nest to #4 not carrying a fecal sac flew over to #1 when worked to E side - sang short version of continuous song + flew off to E at 0833.5.

0841 - adult ~ 1/2 way up in perch #3 chipping. does not have anything in bill + bill-wiped once. moved slightly higher in Agave (total height 3-3 1/2') when sat chipping + preening.

0855 - adult still in #3 chipping + preening no sign of other adult. ♂ across road to S. gives series of continuous songs.

0856 - adult from #3 to #4. when sitting on dead stub 18" up. chipping occasionally. then up to 2 1/2' up on another dead branch in area of #4. still chipping, but not <sup>as frequently</sup> ~~regularly~~ (1/4 sec.) no tail or wing flicking. facing to W (away from nest) body + tail in straight line + approx. 30° above horizontal.

0901.5 - bird flies from #4 to #3 when perches ~ 1/3 way up in Agave at tip of leaf.

0903. - bird flies 75 ± yds. to SE to land just across road in weeds. along both sides of road weeds have grown up where ditches made hence removing brush grass. (mostly composites).

0905 - adult flies in from E chipping rapidly + lands in #1 when continues chipping on E side. flight was direct but wing strokes were short. from east side of #1 flew over to #4 - carrying food. then disappears + is quiet. (I looked away to write - up notes).

wind now continuous + from 5-10 mph - slightly gusty. presumably adult went to nest + either stayed on nest or slipped off quietly while I was writing notes.





July 8

0947. ♂ s. of road sang for 2± minutes, then heard several sharp chips from edge of grass on N. side of road. Watched adult foraging there until 0952. Moved by hopping forward exact same when moving very rapidly. Generally stayed 7-6" out from bases of grass clumps. The ground essentially bare except for stems of composites. Once reached up, <sup>at</sup> perched insect (grasshopper?) about 6" above ground on composite stem. Then back into grasses to other side of 1<sup>st</sup> clump. Flew back to bare area & began foraging again. Twice chased grasshoppers. Flew into grass & dropped down again among bunch grasses. Reappears in 5-10 sec & flew 10 yds N to #1 where chipping. ♀ flew into #2 (apparently from nest) where sat preening for short time. When ♂ flew over to #4 ♀ flew to NE to land in bunch grass. ♂ then dropped down & flew up & into nest.





LLW015  
1964

*Aimophila borderii*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas

On nest for 2+ minutes. Flew out + up to #1 where sang continuous song. Then flew <sup>50</sup>~~10~~ ± yds. to E & lit in dead, 3' shrub where sang for 15± sec. then to E farther + disappeared. ♀ had flown into #2 + then to #3 with food in bill. sat on top E side of #3 chipping softly. Heard ♂ sing 2 trill songs + ♂ S. of road sing.

1009.5- ♀ in #3 chipping, ♂ flies from S. side of road to Agave 100± yds. to E of nest. Flew in giving trill notes. Sang from top for 15± sec. + then quiet + gone from Agave.

1022- ♀ dropped to just above grass level in Agave. Then flew over to #4 where chipping softly + with new (told) insect in bill.

1024- ♂ into #1 with grasshoppers in bill, gave rapid chips. ♀ moved closer to nest + finally went on. She was on 4 min. 40 sec during which time ♂ moved to W side of #1. ♀ flew out to NE to #2 + ♂ flew over to #4.

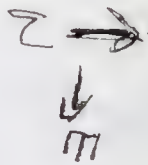
1030- ♂ to nest for 40± sec. + flew to #1 carrying fecal sac. dipped head several times as if to drop sac before finally dropping. ♂ then disappeared from #1.

1033- adult in #1 where chipping softly.

1034- ♂ in #1 + ♀ flies into #2 carrying food. makes rapid series of chip notes. Then ♀ flies to #3 + lands with rapid series of chip notes. ♀ then to #4 - again rumina chatter as lands. ♂ starts to sing continuous song + ♀ to nest. ♂ changes to W side of #1 where sings continuous song. then (1039) sits quietly with no food in bill.



Spring Creek  
for SD #2



pair ♂+♀  
#1

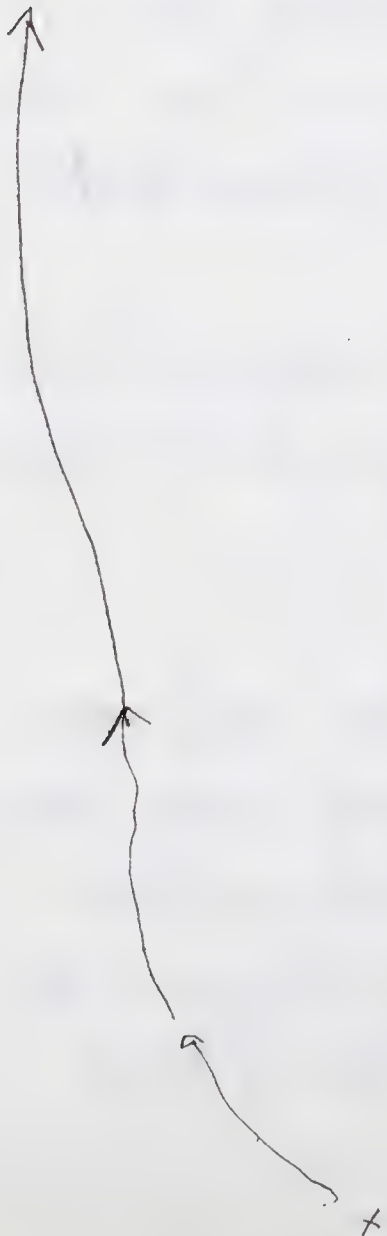
all  
used  
when  
coming  
nest

in the  
food yg.

100± yds

SD #3  
(SD Squad)

Laguna



LL Wolf  
1964

*Amphispiza bilineata*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas

1041- hear occasional soft chips but not sure from which bird.  
♂ still in #1 + ♀ probably on nest.

1047- ♂ flies to E + sing on phrase of continuous song from 100± yds. E + there is silent.

1108- ♂ flew from SE across road (100± yds from nest). Chirping all the way to #1. lit + began giving rapid chips. - carrying food.

1109- ♀ off nest + to #2 where she gave series of rapid chip notes. then disappeared

1110 - ♂ to #4 then dropped down E of nest. then flew up + on to nest. On nest for 12 sec. then out to #4. where sat for 5-10 sec. then over to W side of #1 where sat facing S with wings held out from body + bill open part of time. gave series of chip notes + then sang for 3± minutes (continuous song). ♂ then flew off to E. heard trill song from S. side of road to E but not sure if this ♂ or not.

1126  
~~1126~~ - ♂ #2 [terr. W along road (N. side of road)] into top of <sup>Celtis</sup> ~~acacia~~ on dead, horizontal limb. - sang for 10-15 sec. + then disappeared.

1134- a ♂ up singing from top of 6' dead branch ~ 150-175 yds E of nest. possibly is ♂ from nest. sang for 10-15 sec. then silent. heard series of chip notes from ♂ S. of road.

1139- adult (prob. ♀) in #3 - top E. carrying long insect in bill.

Looks like walking stick. giving soft chip notes - some running into rapid series.

1140- both adults in #3. One then to #1 - hear sharp chips. bird in #1 has wings held out slightly from body. both adults carrying food.





L-15015  
1964

13

*Amphispiza bilineata*

July 8

Laguna Atascosa Refuge, Cameron Co., Texas

adult from #1 flew over to #4 (it was ♂ - see later) + then up + into nest. ♀ in #3 carrying grasshoppers dropped down to just above grass level then worked back up, down + up again + ♂ still on nest. ♀ over to #1 where moved over to a side + chirped softly. ♂ finally came off nest after 14 minutes on. flew to #4 then to W side of #1 where began chirping + giving version of continuous song. ♀ has disappeared - possibly to nest but more likely she ate food she was carrying + is out foraging. 1203 - ♂ still in #1 singing when I left area.

1530 - returned to area of watching this morning. Walked out to nest to photograph. flushed from nest when I was about 5 feet away. flew to SW to perch #6 where sat chirping then to #2 + #1

1540 - still chirping from perch #1. nest is now receiving sunlight most directly as nest faces to SW. Mostly shaded by overhanging grasses, but this becomes ineffective as sun sinks toward horizon. Nest - of grasses lining of fine grasses. almost no exterior at back where built into clump of grasses. front has bulky exterior to anchor + support it as bulk of underlying live grasses drop to ground. Single young is about as described in A as but ventral tract feathers partly unsheathed + show color. young defecated as I lifted it from nest.

1549 - adult (prob. ♀) back onto nest + silent. ♂ heard singing part of continuous song but unable to locate him. Silent after ♀ to nest.





LL Wolf  
1964

14

*Amphispiza bilineata*

July 8 Laguna Atascosa Refuge, Cameron Co., Texas

1551 - adult int #1 carrying insects in bill. Chipping regularly, but rather softly, on dead branch ~~to~~ on W side of #1.

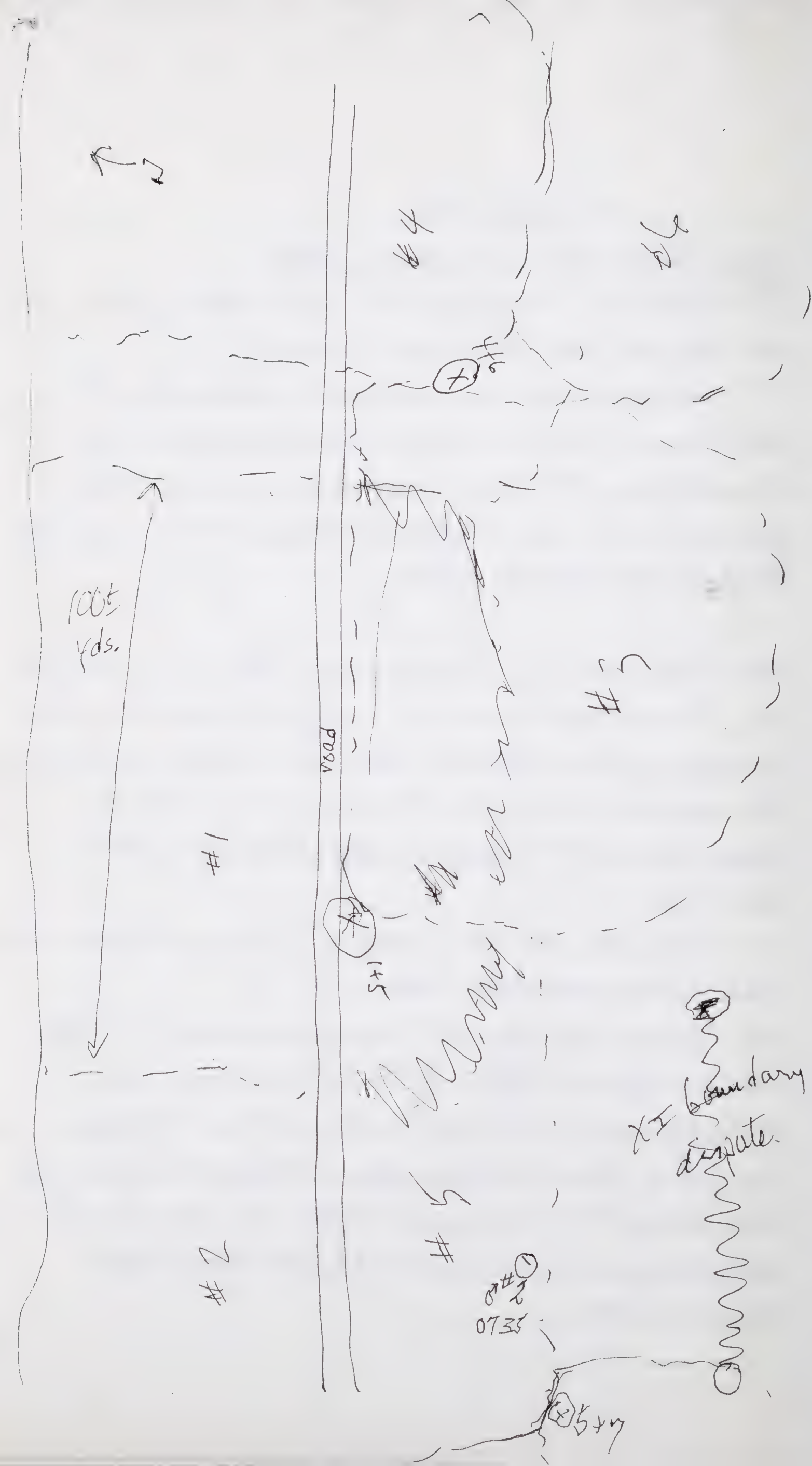
1608 - finally adult with food to nest. after W side dead perch this adult had moved to end of same perch + then to mesquite for just behind. then over to #4 where regular chipping, dropped down + appeared to head for nest but quickly reappeared still carrying food. Then finally down to nest. Silent.

1700 located a singing ♂ to SE from nest. across road + 200+ yds away. flew up into dead shrub + began singing continuous song. soon heard chipping from W. ♂ then to S where <sup>sang</sup> for 3-4 minutes more + then headed west. lit ~ 150-200 yards to S of nest - so probably this is ♂ #3. Chipping was likely by a ♀ but unable to locate her yet.

1710 - hear another ♂ to NE - probably ♂ #4 singing but not in view. Sounds to be near road but on S. side.

1715 - walked over to find ♂ #4. singing from near top of 6-7' Agave. ~ 30± yds. S of road + E of both ♂ #1 + 3. flew back to S where counter sang with ♂ #3 who had flown down by then. ♀ flew up from just W of Agave into Agave where sat chipping. then flew to S where joined by ♂ #4. both dropped into grass. one came up as I started back in; was not carrying food + dropped back into grass. Left area at 1750.





HL Wolf  
1964

*Aimophila borderii*

July 9

Laguna Atascosa Refuge, Cameron Co., Texas

Arrived at Laguna Atascosa area at 0530. Spent early morning charting location of pairs.

Two territorial disputes: first between #5 + #7. ♂<sup>7</sup> + ♀<sup>7</sup> flushed from near road + flew SE 30 ± yds. Soon heard rapid chips + noted 3<sup>rd</sup> bird coming from E. ♂<sup>7</sup> + ♂<sup>5</sup> flew into same mesquite - ♂<sup>7</sup> higher than #5. one or both gave rapid series of chips running into churring note then ♂<sup>5</sup> flew back to E + ♂<sup>7</sup> flew to S. where ♀ had moved in interim.

Other involved ♂<sup>4</sup> + ♀<sup>6</sup>. ♂<sup>4</sup> + ♀<sup>4</sup> flushed from N side of road to 20 ± yds to S. then flew to 30 ± yds S. a 3<sup>rd</sup> bird flushed from W of these birds + just S. of road into mesquite ~ 30 ± yds. S. of road. ♂<sup>4</sup> immediately flew over + lit higher than 3<sup>rd</sup> bird. Assumed posture with tail cocked at 60°, wings slightly held out from body, plumage slightly fluffed, + bill pointing toward #6. little motion. Then rapid chase off to SE - couldn't tell which one initiated chase. ♀<sup>4</sup> flew slightly to S + disappeared.

Dispute between 1 + 5 also involved the churring type vocalization + aggressive posturing, but no chase.

0653 - flushed pair #4 from Spartina grass. Flew with pumping flight to dead branch of mesquite. One assumed tail cocked - wings out - head up posture. Other sat normally. No calling. One higher up (sitting normally) dropped back into grass.





LL Wolf  
1967

*Aimophila botteri*

July 9 Laguna Atascosa Refuge, Cameron Co., Texas

most of foraging area covered seemed to be around Spartina but in areas where other grasses + composites provided spaces between clumps of bunch grass which facilitate movement + gives some bare areas

0700 - Both birds flew to us. 1<sup>st</sup> dropped into grass + 2<sup>nd</sup> flew up to near top of Celtis. As I approached 1<sup>st</sup> to Celtis + 2<sup>nd</sup> flew off to S. 10± yds. to another Celtis.

0702 - both fly to NW. - one ~ 10' behind other. flying 2+ feet above tops of Spartina. Flight seemed to be direct with 120 tail pumping.

0708 - flushed ♀ #4 from grass. flew up to dead shrub 3' up. scratched over wing. then preened + chirped softly. ♂ #6 + #4 began counter-singing each in top 10' dead tree. ♂ #6 mostly trill songs while #4 continuous songs. ♂ #6 stops + another ♂ (#1?) begins. then ♂ #1? stops + ♂ #6 sings for 2-3 songs.

0734 - ♂ #2 flew from E. edge of terr. to clump of bushes 3+ feet high + sang. then across to other side of road (S) when sang + foraged in roadside weeds then farther to S. (40-50 yds) where sat in top of mesquite + preened/scratched (over wing), + began singing continuous song. Another bird began singing to <sup>S</sup>SE + ♂ #2 flew back to E edge of terr where lit on small (2') mesquite. Sang for 10± sec then silent.

0739 - two ♂♂ singing simultaneously - sounds like ♂ 7 + ♂ 3 both S of road + S of where ♂ 2 sang. one to SE + one to SW probably ♂ #2 is identical with ♂ #5





L. Wolf  
1964

*Aimophila botterci*

July 9

Laguna Atascosa Refuge, Cameron Co., Texas

0752. ♂ #7 singing; ♂ #2 flew from ~ 1/2 way to Laguna up to 10 yds N of road into Celtis. lit on dead stub 6' high + sang for 1/2-1 minute until truck came by on road.

0756 - both sexes of #2 fly up from grass N of road. One flies slowly as hovering just above top of grass + then to Celtis ♂ then hovers just above grass + drops in 30± yds. N of road. Sings for 5-10 sec. + then flies on to Celtis when lands on dead stub. Both sexes sit chirping, preening. also chirping from #7. ♀ then to grass 20± yds. N of Celtis - still chirping. ♂ - still chirping, to live branch of Celtis + then to 2' stub 10 yds. N. lit on top. ♀ then flew over to stub + displaced ♂ from top. ♂ dropped down below tops of grasses + sat on another dead stub. after chirping both fly into grasses. when dropping into Spartina hover just above grass + sort of circle around. Then flutter down. ♂ flew to W 50± yds to dead branch of Celtis 3' up. sat chirping. ♀ dropped into grass between this Celtis + tall Celtis - ♂ flew over, hovered in circle + dropped onto small horizontal perch at grass level. sat chirping - then silent. (0803)

0806 - adult from ~ 2' above grass tops + chirping from grass where earlier to NE 30-40 yds + dropped back into grass. Silent.

0813 - found nest of pair #2. ~ 20 yds. N of road + 50 yds NW of tall Celtis song perch. Nest of pair #2 - constructed of dry grasses finer to inside. on N side of grass clump (Spartina) + built into top of pulpy part of clump. Nest fairly deep. Not as well shaded by grasses as #1 nest, but not as exposed to sun. Contained 2 white eggs. 1





LC Wolf

1964

18

*Amphispiza bilineata*

July 9

Laguna Atascosa Refuge, Cameron Co., Texas

Brown-headed Cowbird egg + 2 recently hatched young which have fairly good covering of whitish down. Both young dead + skin of abdomen rotted away. Ants on both. ♀ did not flush until I kicked S. side of clump in which nest located then flew silently just above grasses to NE (almost E) for 50-75 yds. ♂ did not flush from his last position.

0820 - ♂ into perch 30+ yds to NW of nest - chipping rapidly then to 10 yds NW of nest still chipping. ♀ flew silently from E to W (50-60 yds W of nest + 30-50 yds N) + lit in dead stub.

0825 - chipping from #2 + #7 (across road).

0827 - ad(♂) into perch 30± yds NW of nest. sat chipping just at grass level. ♂ #7 began chipping + singing across road to S. ♂ #2 then 75-100 yds to W where began continuous song. ♂ #7 soon quiet + #2 then sat from his 6' high, dead stub perch chipping sharply.

0830 - ♂ over to 50-75 yds. W of nest + chipping. ♀ flies up from vicinity of nest + over to 75+ yds W. joined by ♂. both chipping.

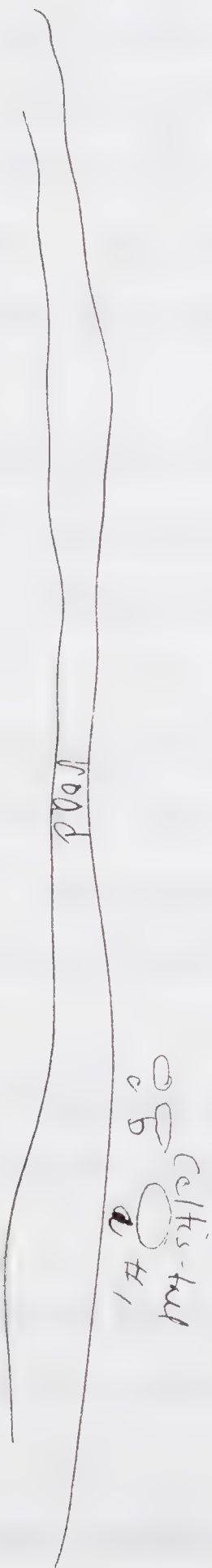
0833 - ♀ to 40 yds west of nest. ♂ giving occasional 2 notes along with chipping by both sexes. both sitting on dead 3' perches in Spartina - probably Celtis shrubs.

0837 - both sexes now ~40 yds. W of nest. ♂ up on dead stalk 4-5 feet high - chipping with occasional 2 notes from continuous song. ♀ in live 3' hackberry + chipping. ♀ then to perch 30 yds NW of nest. ♂ flies to NE 30-40 yds beyond ♀ + goes into hovering flight as if

for pair  
#2

#2 (30 yd NW)  
X X

↑  
N





LL Wolf  
1964

19

## *Aimophila borderi*

July 9

Laguna Atascosa Refuge, Cameron Co., Texas.

going to drop into grass. circles around & lands 1 foot below & just below grass level. Hovered & moved by wind before finally landing.

Both sat chipping.

0847 - ♂ from another small perch next to ♀ hovers over 3-4 feet horizontal distance & finally drops into grass. During this hovering body held  $\sim 60^\circ$  with horizontal. ♀ hovers near 2<sup>nd</sup> perch & also drops into grass. ♂ up onto mesquite branch at grass level & then back to ground. 0850 - adult up to top of #2. then hover flight to drop into grass 10 feet to SW. still infrequent (occasional regular & frequent) song & chipping - probably ♀ working to nest on ground.

0858 - both sexes quiet - ♂ #7 singing actively.

0907 - ♂ #2 into perch 1c. at top of 4' branch. sat chipping & gave several song notes. then dropped to ground to SW in weeds along road cut. hovered just above weeds before dropping in. then silent.

0923 - as I left #2 to look for #7. ♂ #2 flew up into perch 1a & began singing & chipping. then down to #4 - followed one bird for  $\sim 1$  hour - only seen occasionally & for short times.

Nest + eggs of pair #2

nest faces to NW.

21.5 x 15.8 - egg } bluish-white.  
21.1 x 15.5 - egg }

19.4 x 15.6 - Melospiza egg.

flushed both birds from nest at 1030. Not sure of relation of each to nest but both went off from site. both dead young were gone & Cowbird egg was pipped. Removed Cowbird egg to be sure of identification.



LLWOLF  
1964

Aimophila *botteri*

July 9

Laguna Atascosa Refuge, Cameron Co., Texas

1639- as I drove along road ♂ #2 was on top of dead shrub on perch #1 - singing continuous song.

flushed another adult from S. edge of road about where Terr. 1 + 2 met. flew to SW for 50-75 yds. + still flying when last seen.

1641- ♂ #1 quiet + gone from perch.

1649- adult into #3 perch (terr. #1) with food in bill. sat on top E side chipping softly. worked down to base of Agave + then back to top - then down to middle where sat in shade. As truck passed on road at 1656 flushed 2<sup>nd</sup> adult who went to SW + then back to NE to perch #1. joined there by adult with food - it worked low in perch + then back up to middle then to perch #4 + into nest (?) Other adult stayed in #1 + chipped softly.

1702- adult to perch #4 + gone from #1.

1704- noted ad. with food in #3 - looks like same food as carrying before - prob. did not go to onto nest when disappeared that way from perch #4.

1707 - adult with food to #4.

1709- ad. Mimus polyglottos lands in #4 + adult botteri flies up from ground just E of nest; lands near ground in #4. one chase by sparrow but Mimus stays in #4 - finally flies to #1 + back to #4. ~~Left~~ Left alone by sparrow until apparently looking at nest. Sparrow then flies at mocha who dives toward ground + moves off to E. Sparrow then moves over to #1 where sits chipping softly.

1715 - disappears from #1 & is silent.





LLWOF  
1964

*Aimophila borderii*

July 9

Laguna Atascosa Refuge, Cameron Co., Texas

1717 - adult with no food in bill sitting #4. - chipping softly.

1719 - drops toward ground + appears to be moving W to nest.

Then a bird skitters out to E + drops to ground to E of nest about 5 feet. May be both parents. shade young - in sunlight now. left until 1728 to take pictures of nest #2. - one of eggs has hatched.

1728 - adult in perch #1 carrying food } chipping softly.

1731 - moves to W side of #1.

1733 - flies to #4 + immediately drops down to over ground + headed to nest, continues chipping softly, but is out of sight.

1736 - adult flies in from E to #2 carrying food in bill.

1737 - flies up to #3 - lands top E side. chipping.

1747 - drops down to grass level in #3 then immediately back up to mid height. flew over to perch #4 + dropped to ground. worked on ground over to nest. 1748 - adult flew out from nest to #1 where sat silently on W. side. I think adults trade places at nest when they go to feed.

1751 - adult gone from #1 + one on #4 drops to ground on N side of nest.

1803.5 - adult into #3 (top E side) carrying food in bill. chipping.

1808 - adult still in #3 + 2<sup>nd</sup> one appears on #4 not carrying food - prob. came off nest.

1810 - adult from #3 to #1 + one from #4 to #1. hear churring call.

1810.5 - bird without food leaves + one with food waits 10+ sec + then to nest via #4.

1811.5 - adult without food to #1 from 10 yds E. then to #4 + to nest.





L. L. Wolf  
1964

*Amphispiza bilineata*

July 9 Laguna Atascosa Refuge, Cameron Co., Texas

1815 - no adult flushed from nest when I went out to check. one came up from grass 15 ± yds E of #1.

Young - feathers well developed on all tracts. dorsum nearly covered. showed covering response when I put hand near nest. gave cheeping cry when hand held. Both responses in contrast to yesterday when showed no reactions of either sort when removed from nest. adult to #3 chipping & when young started calling flew to SW of #1 so only 10-15 feet from nest. dropped into herbaceous vegetation (not Spartina) chipping loudly. Flight in wavy flutter. Worked to S. thru grass & flew up to E. Back to #1 chipping loudly when I went back to road (in car). Left area at 1820.

July 10 Laguna Atascosa Refuge, Cameron Co., Texas

0545 - bird flushed from Spartina grass 20 yds S. of road in terr. #4. flew to west parallel to road for 30 ± yds & perched in 2' hackberry on bare limb where sat giving series of rapid chips. Then flew across road & lit in bare hackberry 80 ± yds N. of road. Then to SE for 60-70 yds to dead shrub 3' high. Lit near - just below - grass level & disappeared when I wrote notes at 0549.

0553 - heard bird chipping & singing to W. - prob. ♂ #1 also chipping from E. of road in terr. #4.

0610 - 0615 - ♂ #3 - presumably - singing continuous song from various perches 100+ yds. S. of road.



LLW01F  
1964

*Aimophila botterii*

July 10 Laguna Atascosa Refuge, Cameron Co., Texas

0628 - located adult 150-200 yds E. of tree #4 on N side of road. Chipping sharply + carrying food. was near top of 4' hackberry where branches bare.

0630 - still chipping - dropped lower in bush + flew 5-10 feet to E + into grass. Another adult flew into bush from E + began chipping - 1<sup>st</sup> then up into hackberry inner fork + both chipping. flew off to E + both dropped into grass ~ 20' to E. then immediately up flying up flying just over tops of grass to E. dropped to ground ~ 40 yds to E of hackberry.

0640 - both adults up chipping + carrying food. one on S. side of road. 40± yds. SE of hackberry + other on N side of road 75± yds to W of nest. one to W crosses road to 10± yds. + slightly to E where is joined by 2<sup>nd</sup> bird. Both sit on dead perch chipping (6' up). Then fly to NE across road + land on 2<sup>nd</sup> perch. 2<sup>nd</sup> one then displaces 1<sup>st</sup>. 1<sup>st</sup> sit chipping. One then flies to E ~ 20 yds. + drops into grass 10± yds W. of hackberry - other bird on perch + still chipping. Then this one too flies to ~ same spot + drops into grass. 15± sec. later note bird flying E just below crest where land drops down to Laguna. flies along here mostly hidden from view for 75-100 yds + then turns inland + crosses road.

0650 - can hear chipping near where this bird crossed road.

0652 - two birds up chipping + one singing continuous song <sup>100</sup> ~~100~~ yds ± E of hackberry. Near top of 6-7' dead branch. One bird slightly higher than other. Another bird across road + probably slightly farther S. also starts continuous song.





LLW014  
1964

*Amphispiza bilineata*

July 10

Laguna Atascosa Refuge, Cameron Co., Texas

0655 - Both birds leave perch while I write notes.

0710 - adult carrying green larva into bush on S. side of road SE (40-50 yds) of hackberry. then across to hackberry where sat on top dead branch 7' up. another bird to E. chirping. ad. with food flew over ~~embankment~~<sup>slope</sup> down to lake + disappeared.

0722 - hear chirping + some continuous song to E. prob this pair. (hereafter referred to as pair #8)

0732 - bird chirping to S of nest across road. then note adult hopping from area of lake shore toward Spartina across nearly bare area with some low Huisache + clumps of crab grass.

bird S of road flew east where joined by bird from N. of road. heard chirping.

0734 - ~~both~~<sup>one</sup> birds back across road to hackberry carrying food + chirping dropped down to below vegetated top level of bush + flew to SW. lost from view. 2<sup>nd</sup> bird (♀) flew into top of hackberry carrying grasshopper + chirping. 1<sup>st</sup> bird flew out from area of crab grass + flew across road to S. (0739). ♀ sat in top of hackberry chirping sharply + regularly. Changed position + went thru pre flight movements several times but didn't fly until ~ 0755. When flew to N. edge of Spartina. ♂ singing across road + another ♂ singing to E. 100 yds. ♀ down to edge of Spartina + worked around in cover of composites. Several times hopped 1-2 feet out onto bare ground area separating edge of Spartina + clump of crab grass from which ♂ came to N.





LEWIS  
1964

*Aimophila borderii*

July 10

Laguna Atascosa Refuge, Cameron Co., Texas

Finally she went to base of 1' Huicache or Acacia tortuosa at N edge of Spartina. Thrust head downward several times + came up without food in bill. Then hopped around chipping for 10-15 sec. + flew back to hackberry where bill wiped several times. Then flew off to SE across road.

0807- Adult into hackberry from S carrying food - chipping. Changed positions several times on hackberry + flew to SW to (and near where I had earlier (by 0800 I found nest at S apex of clump of crab grass). It also hopped around in Acacia + composite vegetation along N edge of Spartina (12-16" high). Worked out onto bare ground ~ 1/2 way to crab grass clump several times only to return to edge of Spartina, carrying food + chipping continuously.

0817- finally across bare area + chipping soon stopped for 1-2 min. then started again.

0825- adult from out of nest into hackberry (which is 20± yds to NE of nest) + then across road to S. Almost immediately replaced at hackberry by #2 adult carrying food. It dropped right after landing in vegetated part of hackberry on far side from one or else to ground (hidden). Can hear it chipping.

0828- adults both silent.

0838- adult flew out from nest + across road to S. heard chipping + then singing from there. Probably was ♂.

0850- adult carrying food lit at N. edge of Spartina + out into bare area a short distance then flew up into mesquite to SE.





LLW01f  
1964

26

*Aimophila* *gotteri*

July 10

Laguna Atascosa Refuge, Cameron Co., Texas

0851 - back to N. edge of *Spartina* where chipping.

0851.5 - flew (pumping flight) onto nest where silent for ~ 30 sec.

Then out to bare area where stood chipping & then in toward *Spartina*.

0855 - silent & may have gone back to nest.

0859 - adult flies up from vicinity of nest & to W along shore for 15 ± yds. lands at edge of clump of crab grass where sits chipping.

0904 - adult carrying food sitting at top of 6' dead branch S. of road ~ 20 yds. (about due S. of hackberry). Chipping regularly.

0907 - flew across road to N. chipped several times & silent. Probably is in grass working toward nest.

0911.5 - adult into hackberry from across road to S. carrying food. food is different than 0904 adult. changed to perch in hackberry to N. of where first landed & sat chipping. ♀ then flew down to bare area ~ 1/2 way between *Spartina* & nest. sat chipping hopped around in small area (0.8 ~ 6" dia) chipping softly.

~ 1/2 minute later ♂ flew off nest & to S where he began singing across road. ♀ hopped closer to nest & sat chipping softly.

finally to nest & quiet at 0916.5.

0918.5 - ♀ flew across road to SE. gave one sharp chip in tail pumping rather fluttery flight. part of flutter may be to counteract 5-10 mph (+ gusts to 15) wind blowing ~ from South.

♂ no longer singing.

0927 - adult chipping to SE across road 40-50 yds from hackberry. flies to hackberry where stays until 0928. Then down to ground





LL Wolf  
1967

Aimophila *botteri*

July 10 Laguna Atascosa Wildlife Refuge, Cameron Co., Texas

about halfway between Spartina + nest. Hops back into thicket + composite cover at edge of Spartina then back out to bare area.

Chipping softly + regularly. Hops over to apex of grass - short flight last 2 feet where sits chipping softly. Then silent + moves into grass to nest.

0935 - adult near or on nest chipped for  $45 \pm$  sec. + then was quiet.

0938 - chase  $\approx$  30 yds S. of road going from W to E. weaving flight + one bird closely following (1-2') other. ♂ #8 sang from S. of road after chase. didn't see outcome as vision blocked by bushes.

0950 - adult with green Orthopteran in hackberry apparently from on ground nearby. lit on S dead branch.

0952.5 - flew over to edge of Spartina + lit in thicket area. moved out onto + across bare ground. Chipping continually + occasional wings flicks + tail slightly spread. into grass + to nest at 0954.5 silent.

0957.5 - heard chipping + other adult flies into mesquite across road  $40 \pm$  yds to SE of hackberry. Land  $\approx$  6-7' up (tree 12.75') on dead stub of limb. Sits chipping.

1002.5 - flies to hackberry when land,  $\approx$  2' up + drops immediately down into grass. where chips for  $30 \pm$  sec. + then silent.

1006 - adult flies to SW across road from vicinity of nest. + sings from bare top branch of 6 $\pm$  foot hackberry on outer edge of clump of hackberry.

1015 - heard few chips from near nest.

1019 - more chips. adult just W of nest. flies to  $10 \pm$  yds W of nest where in small herbaceous bush (1' tall) chipping. works across bare ground to near Spartina + then flies to hackberry where sits chipping. At first had mouth open as if cooling.





LLWolk  
1964

*Aimophila borderii*

July 10

Laguna Atascosa Wildlife Refuge, Cameron Co., Texas

1026 - flies toward road + lands in wads along ditch (12-16" high).  
Then drops to ground - start chipping.

1029 - adult prob. saw one into backberry with green *Orthoterm*.

Nest # 2 yg. ID. 80 x 50 deep O.D. 130 x 100 mm  
" 1 empty 70 x 60 deep x 60 deep 15" F-B 35' 6" F-F  
" 2 empty 75 x 75 x 15" O.D. 105 F=30  
ront

Young in nest #1 - gone; parents chipping nearby so  
presumably left of own accord.

Collected ♂ from #8 - young here of different sizes are  
much younger than other (or smaller). feathers (flight) erupting  
from sheaths on older. sheaths only about 1/2 gone on younger.

Nest #2 - egg + young gone - prob. predator. adults not  
evident while we measured nest.

Nest #8 - on ground in slight depression in area of  
crab grass. placed near apex <sup>of goosey area</sup> but under longest grasses  
within 3 feet. faced to NW. sun shining on it at 1430.  
7 mi. NW Port Isabel, Cameron Co., Texas

Near Airport	Egg size	all measurements in mm.
ID 60 x 70 deep	1 21 x 16	
OD 90	2 21 x 17	
	3 21.5 x 16	
45 off ground	4 21.5 16.5	



LLWolf  
1964

Aimophila *botteri*

July 10 7 mi NW. Port Isabel, Cameron Co., Texas

Dick collected a ♂ + found nest SE of airport ~ 1 mile.  
nest + egg measurements on previous page. Also collected  
2 Cassin's Sparrows + saw a group of young. Cassin's seemed  
to be on N side of road where a bit more cactus + more yucca  
appearing on south side.

Nest of *botteri* - raised slightly off ground on W side  
of ridge - Succulent provided shade to E + S. so nest  
"opened" to NW. suspended in small bush ~ 12" high.  
(see specimen). ridge was mound of dirt about 6-7' above  
ground level - thrown up as debris from water channel.

Not sure of habitat separation between two species of  
Aimophila here, but seems to be good breeding season difference.





Wolf, L. L.

1963

Aimophila carpalis





LL WOLF  
1963

*Ammodramus carpalis*

Dec. 17

Wilcox Rd. Ojai N. Benson Hwy., Tucson Pima Co., Arizona

most of the birds seen this A.M. were on east side of Wilcox Rd. occurred in groups of 5-10 individuals - generally around mesquite + hackberry where there is some bare ground, but also some grass. Saw 3-4 of these groups. Unable to find <sup>either</sup> ~~any~~ of the color-banded males.

Heard one bird start a song, but no complete songs. Commonest vocalization is the "tzeet" flock note. On five or six occasions heard the warbling pair reunion call. On times when I was able to follow birds the call was invariably given as one flew into a bush + lit near another *carpalis* already present. Was never able to ~~be~~ determine if only one or more were given the call. Once it sounded as if two were calling, but I am not sure. ~~of~~ Unable, of course, to discover sex of pair involved in duet. During breeding season it is given in pair reunion. This may be a more specialized case of a general reunion call or the birds may be paired during the winter. The call once sounded rather like a soft version of the "homologous" call of *A. sumichrasti*. Would be interesting to know if call is given all year around by those species having call well developed.

Except for 2 lone Desert Sparrows + a small flock of White-crowned Sparrows there was a





Llewellyn  
1963

*Ammodramus carpalis*

Dec. 17 very noticeable lack of sparrows as were present in January, 1963. Does the bulk of the winter sparrow population not move in until January?

The carpalis population seems to be less than January, 1963. So do most of the other common species so it probably is only an impression which is not valid. The carpalis do seem to be restricted more to mesquite - hackberry - grass areas + spending less time, unless chased, foraging in more open cholla-dominated areas.

49978.6





Wolf, L. L.

1963-1964

Aimophila cassinii





LLW 015

1963

Aimophila cassinii

July 4 mi. NW. Silver City, Grant Co., New Mexico.

Found lone singing ♂ in bear grass, juniper, & oak overgrazed area. Singing both perched & flight songs. Unable to collect bird.

July 7 14 mi. N. Sagar, Grant Co., New Mexico

#1940 - pin feathers on back, breast, sides, scapulars, upst. cov. & crissum. 1 tertial new. Flight feathers old.

Area was scrubby mesquite - up to 3-4 feet tall with some branches extending to 6-7 feet - growing in rather prostrate form as if kept back by cattle grazing; also Yucca elata - very scattered, a perennial composite about 12 inches high & grass. No tall grass - all area overgrazed. ~~the~~

Heard at least four & probably 5 singing ♂♂. All were giving flight songs. One not pursued flew up from dead perch to 20 feet - just below top of arc started to sing; ended just ~~before~~ before landing on same perch.

♂♂ were spaced at 50± yard intervals where I collected 2. arranged in triangle. Another 100-150 yards to east.

When pursued birds dropped from exposed perches down into clumps of mesquite. Generally would not flush until I was within 20 feet & several times I had to beat bushes. Several times flushed from ground.





LLWoit  
1963

2

*Aimophila cassinii*

July 8

8 mi. NW Lordsburg, Hidalgo Co., New Mexico. on A.S. 70

JP# 156 - Secondaries new

1<sup>st</sup> primary new

back new - rump w/ shattered feathers.

LLW #1941 - molt - throat, breast, rump, ut.c.

tail feathers acute. central pair very worn.

LLW #1942 - little molt on back. rest of back worn

LLW #1943 - little molt on back, hindwings + lower abdomen. rest of ventrum appears new

LLW #1944 - back + ventrum partly new. back looks as if molt begins on lower back.

LLW #1945 - little back molt.

habitat

these birds taken from group of 20-30 + singing 0800 in mesquite grassland along highway. Birds tended to be found where grass covered 50-75% of ground + was 15 ± inches tall. also scattered mesquite up to 6-7 feet tall. most 2-3 feet. when pursued birds would drop from high exposed singing perches down into mesquite clump + often to ground. sometimes moved on ground on opposite side of mesquite from my approach, often sang from concealed perches in mesquite clumps.

habits

Flight songs were being given by all birds seen. During return to perch + during song wings are fluttered rapidly up + down as bird glides in to land. Song again starts just before peak of wave.





L. L. Wolf

1963

*Amphispiza cassinii*

July 8 - John + I agree that birds were spaced at about  
Specied / 50  $\pm$  yard intervals. This when the good grass was  
continuous. Birds were essentially absent, until  
Habitat / cleared from area where ground was bare or only  
covered with short herbs + mesquite.

Central pair of rectrices much more worn than others.  
Probably not molted at last molt - pre-molt?

Habitat / These birds apparently are locally abundant in  
south western New Mexico when there is ground cover  
of 1-2 feet tree + fairly thick with mesquite or some  
other emergent tree or shrub to provide elevated song  
perches.

July 10 0.6 mi. N. Benson Hwy., Wilcox Rd., Tucson, Pima Co., Arizona

This locale is supposed to be good for Cassin Sparrows after mid-July.  
Today there are no singing ~~♂♂~~ so apparently the migration is  
underway, but has not reached this far west yet.





26 W/H  
1964

*Aimophila cassinii*

June 16

8 mi. W. Davis Mts. Jct., Jeff Davis Co., Texas

Found 4 singing ♂♂ in legume shrub grassland. Birds were widely spread (>100 yards) in areas which were low + collected water - hence shrubs taller + ground vegetation lusher.

Chased one singing ♂ which was difficult to locate. Was singing from  $\frac{2}{3}$  way up in 4 foot legume. Flew to + disappeared into taller legume. Lost it when tried to collect + missed.

Chased a 2<sup>nd</sup> ♂ which was giving the flight song. Song started about 2 feet below peak of flight. Generally flight was much steeper up + glide to same or another bush. Was curving flight } if back to same bush. Unable to collect this one either.

June 16

12 mi. SW. McLamey, Pecos Co., Texas

heard at least 2 ♂♂ - 1 giving flight song - in this open area of legume shrubs + some grass. Where clump of shrubs grass still present. Shrubs frequented by sparrows were 5-8 feet tall. other, much shorter shrubs more common.

4 mi. W Barahart, Irion Co., Texas

heard 2 ♂♂ in mesquite woodland with short grass + rather rocky.





LL Wolf  
1964

*Amphispiza carolinensis*

June 25 12 mi SW. Refugio, Refugio Co., Texas

Encountered 5+ singing ♂♂ in open mesquite-like grassland. ♂♂ spaced at ~ 100 yard ± intervals in areas where clumps of legume + hackberry (*Celtis*) were spaced 20-30 feet + more. When closer sparrows did not occur. Trees (shrubs) are up to 20-25 feet tall. When pursued the birds fly from hackberry to hackberry (occasionally mesquite) + land on outside, then rapidly flutter + hop into interior. Usually flush out well before I approached close to bush, but infrequently would stick until I was right on top of them.

Found singing ♂♂ - watched several giving flight songs - also a gravid ♀ with a yolk in her oviduct + a 2<sup>nd</sup> large follicle. Also young full grown + from part to completely thru the p.p. molt. The laying ♀ must be on at least 1<sup>st</sup> brood. - possibly a third.

June 26 Welder Wildlife Foundation, San Patricio Co., Texas

0610 - while recording ♂. another bird (♀?) flew onto 3 foot perch + gave series of chirp notes. then flew closer to ♂. ♂ + another bird flew by + ♀? began series of chitter notes, which were followed by series from ♂ or other bird. then ♀ flew closer + then chase - not sure who chasing whom. ♂ came back + sat on 3' perch + gave several soft chattering series. then launched out across road in flight song pattern as giving the chattering call. Almost became warble at top of arc.





LLWoff  
1964

*Amorophila cassinii*

June 26

Welder Wildlife Foundation, San Patricio Co., Texas

Heard the chatter flight song from 2 other ♂♂. Once not sure of situation; other after series of chattering sounding like pair reunion.

0722 - Bird flew to top of 2' <sup>hackberry</sup> ~~mesquite~~ where sat chipping softly. As I approached it flew to outer branches of hackberry & worked to interior; reappeared in 10-15 sec. near center exterior of bush where sat chipping.

0725 - ♂ to N. 50 yds. went up into chatter flight song preceded by series of chatter notes at which bird I'm watching ~~flushed~~ looked over in that direction. Bird has shifted slightly to W. from 25-50 yds. further w. had chit. fl. song, but didn't see bird in flight.

0730 - Bird I'm watching sitting in top of hackberry with food (grasshopper?) in bill. flies in floppy, tail-pumping flight to 50-50 feet to another hackberry, then to base of mesquite. as I approached 2 birds flushed from ground or several inches up in interior of 3 foot mesquite next to a hackberry. Both flew > 100 feet. ♀ to N. young to W. ♀ then (0734) flies across mesquite to another 50 feet S. then to NW where lit near base of mesquite & is chipping softly but sharply. then 50 feet to S. into base of mesquite. then (0738) low where dropped in at base of hackberry where originally seen.

0742 - ♀ up into dead branches of 5' hackberry (2' up) where sat for about 1 min chipping softly then flew (jerky, pumping flight) 15 feet to east where dropped into clump of 1' mesquite. Then back to base of 1<sup>st</sup> hackberry where chipping softly.





LL Wolf  
1964

*Aimophila cassini*

June 26

Welder Wildlife Foundation, San Patricio Co., Texas

0750 - flushed ♀ from 50 feet farther east. Flies off to NW where heard chitter series, then soft chips, then several soft chitter series. ♀ with food in bill ~~flies~~ flew into top of 4' hackberry near where 1<sup>st</sup> flushed young. chirped sharply then flew east to drop at base of mesquite. Flight not as jerky as when going short distances.

0806 - I walked over + bird flushed from 10 feet E. of where ♀ went + down. flew to NW where lit in top of 4' hackberry chirping + preening. flew to SW (0809) to land in top of hackberry from which she earlier came with food. bird disappeared + then chit. flight song just to west ending in hackberry. Is this a ♀ performance?? ♂ singing 75-100 yards to N.

0815 - ♀ to E. to just beyond mesquite base (see 0750), walked over. ♀ flushed to W to top of hackberry, finally flushed young - tail not fully grown from clump of short (2") mesquite + short branching serotia skinned cactus. young flew 50+ yds. to west.

0830 - ♀ from hackberry near where young 1<sup>st</sup> flushed + flew to W. dropped into clump of short mesquite.

0840 - ♀ up into top of hackberry with food in bill. flew to SW beyond mesquite where she has been going. lit in top of 18" mesquite + heard chitter that sounded very similar to reunion chit of *A. carpalis*. Then ♀ dropped to ground.

0849. hear chirping in mesquite clump. ♀ c food hops to top of 2' bush. Looks like same food. Hear chitter-like series to W. + ♀ flies 50 yards in that direction to top of hackberry where ~~she~~ left at 0830.





LHWolf  
1964

5

*Aimophila cassini*

June 26 Welder Wildlife Found., San Patricio Co., Texas

0854 - adult in 5' hackberry on dead branch end 50 yds. down of hackberry where last saw ♀.

0857 - heard pair reunion chatter - single bird - + bird dropped to ground.

0858 - ♀(?) to top of hackberry (4') with grasshopper in beak. TB 5 25-30 feet to top of 5' hackberry where sat with tail flicking then dropped to ground near base.

0903 - adult up from ground near where ~~first~~ dropped in (0858). Flew 10-15 yds. W + lit in top of 5-6' hackberry where gave chatter series. Then semicircular flight to S. ending with flutter take and flight song as bird lit in top of mesquite, no song. heard faint chips + bird disappeared - presumably back to ground.

0910 - adult in from E. + dropped to ground at base of small clump of 2' high mesquite. (same area as where other adult dropped - e food?).

0912 - flew out to top of 8' hackberry 15 feet to E. 0913 launched off to NW in nearly horizontal fluttery flight. gave full song + dropped into grass. 0916 - flew out again nearly horizontal + ~ 6' up in fluttery flight that culminated in chatter song just before landing. Then sang perched "regular" song. Then quiet.

0920 - adult (♂?) flying to E. (6 up) when dropped lower suddenly turned + lit on bare mesquite branch 6-8" up + then dropped to ground. (30-40 feet NNW of where fed yg.)

0926 - adult into top of hackberry 50-75 yds. to E. of where feeding young. Then SE to mesquite clump where flushed 2<sup>nd</sup> young.





LLW/F  
1964

6

Aimophila cassinii

June 26

Welder Wildlife Foundation, San Patricio Co., Texas

0932 - ♂ flight song 50 yards to S. - just N. of road. Lit in hackberry where sang 2 stationary songs. Then flight song 40 yds. to E. Another 40 yds. to E. Both times lit in top of 6-7 foot mesquite bushes.

0937 - walked over to where last two "feedings" took place. flushed young bird from ground - center of clump of 1-2' mesquite. flew 40-50 yards SW. + dropped around base of mesquite. at same time adult (♀?) flew into interior of mesquite 25 yards to NW, where sat silently. Had apparently been foraging on ground near this mesquite.

1000 - another territory to W along road. ♂ giving flight songs.

1000; 1000.5, 1001, 1001.5, 1003.

1001 - from perch. - 1002.5

intervals between <sup>sec.</sup> 13 ~~sec.~~, 25, 20, 17, 17, 18, 12, 45, 15,

stationary 11

flight 11

was moved 50 yds. farther ~~west~~ west.

1008. - ♂ back - 100 yds to where first seen. Territory apparently ~ 100 yds long along road. Covered whole distance in one flight. Gave one flight song then glided 20+ yds. to almost ground level. Then went up to 20 yards in distance of 5-10 yds. glided back to mesquite 20+ yds farther east.

1015 - after 4-5 perch-songs flew to W in 10 yd. high flight song, then flew about 3' off ground 40 yards farther. appeared to be going to land in short mesquite when went up into another flight song from which





LL Wolf  
1964

*Aimophila cassinii*

June 26

Walden Wildlife Foundation, San Patricio Co., Texas

circled around + landed almost where had appeared ~~to~~ going to just before.

1018 - singing stationary songs area is <sup>North</sup> ~~West~~ of 1006 1007  
1002 1003

almost to next marker.

1020 - ♂ stopped singing.

1600 - back to same ♂. have at least two birds circling in area of dia 50 yds<sup>±</sup>. ♂ giving flight songs + occasionally chatter sl. songs - one of which ended with last two notes of regular song. other bird also giving chatter series. Several times two birds flew nearly together - one behind - giving chatter series. Also most pronounced when two birds coming together.

Regular song - — — — giving in at least three manners:  
1: flight situation 2: perched 3: flying horizontally just above vegetation. Often ~~later~~ last will not be a complete song + seems to end if bird perches before end of song which is often the case with a horizontal flight.

Also heard bird give chatter at road + ♂ in area flew in that direction + also gave chatter. Not sure identity of other individual.

1608 - ♂ quiet.

1610 - part of song - twice. - lacked last two notes.

1612 - another ♂ 75<sup>±</sup> yds from road. Singing from bare limb near top of 1' hackberry, then flies to NE so only 30-40 yards from road + seeming in 1<sup>st</sup> ♂'s territory.



LL Wolf  
1964

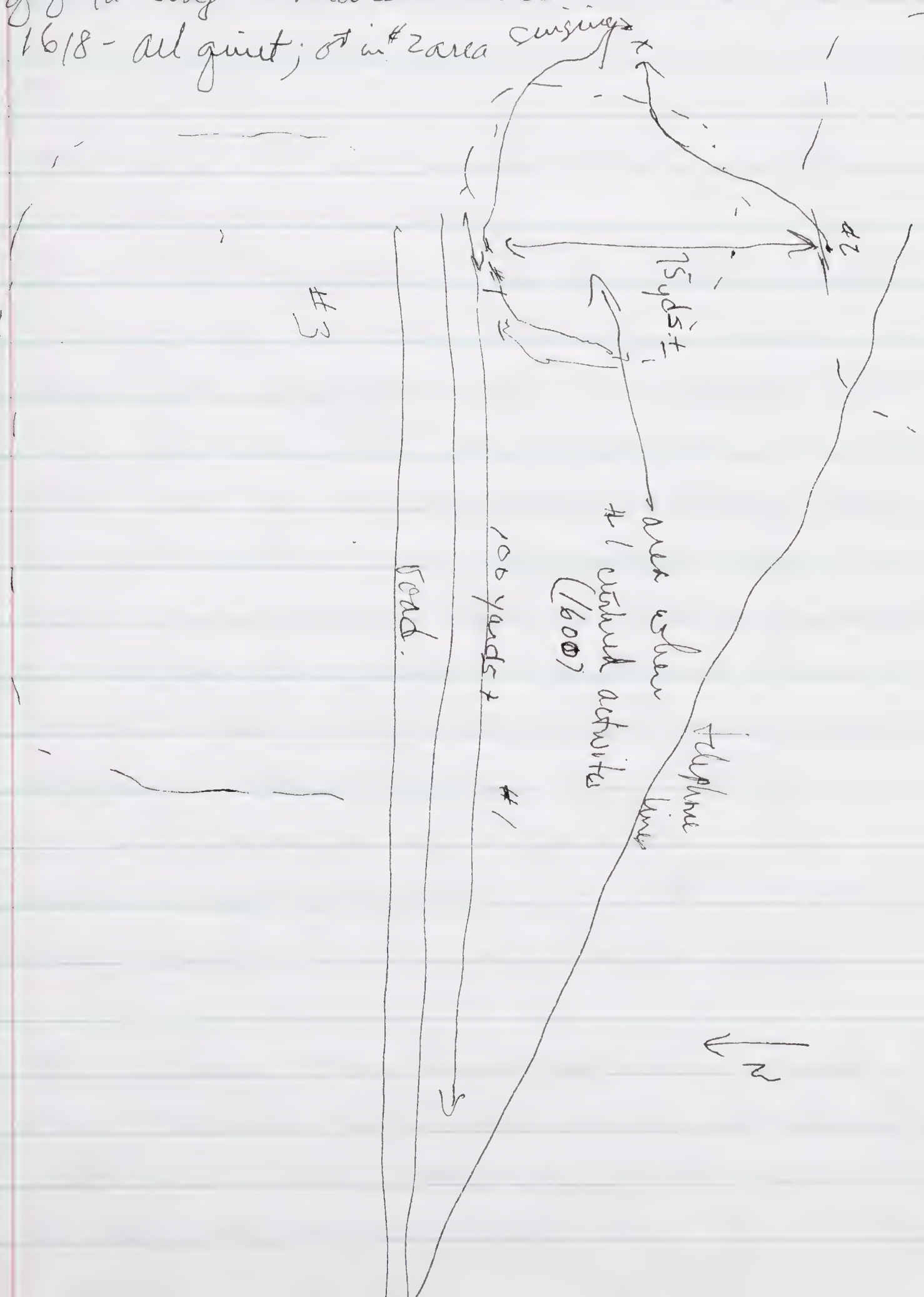
*Amphispiza cassinii*

June 26

Welder Wildlife Foundation, San Patricio Co., Texas

1615 - ♂ flew to near spot where #2 landed in 2 short flights. 2<sup>nd</sup> flight culminated in chitter series + 2 end notes of flight song. Otherwise silent.

1618 - all quiet; ♂ in #2 area singing







LLWOLF  
1964

*Amphispiza cassinii*

June 26 Welder Wildlife Foundation, San Patricio Co., Texas.

#3 is ♂ of pair I watched feeding young this morning.  
#1 singing near road in <sup>(nest)</sup> - 3 times (1 flight)

1625 - ♂ #3 chit. fl. song.

1626 - ♂ #1 - flight song. back to perch in 7' mesquite.  
then flew horiz. to 3' mesquite - song not complete but  
whistle in air + 1 end note while on perch. now back into  
circle area with flight song.

1631 - ♂ #1 flight song for 20 yds ± parallel to + 10 yards S.  
of road. at edge of vegetation. then into 6' mesquite to  
ground + back into mesquite - each time with partial flight  
song. flight song <sup>performance</sup> begins with shallow, regular, but fluttery  
flight to near apex, then glide which starts song. ends  
flight with flutter to land. song usually, not always, ends  
before arriving at perch. Always seems to be complete  
but note given from perch may be reduced in volume.

1642 - ♂ #1 flies to W. ~~to~~ 75 ± yds. ♂ #2 singing to S. + seeming  
at edge of territory. ♂ #1 then in that direction.

1644 - ♂ #2 singing from near where first seen.

1645. bird singing from near SE corner of ~~#1~~ #1's territory.  
prob. #2 as this is in area covered by him earlier.

The chattering + singing at 1600 was close enough to  
border between 1 + 2 that it may have been a boundary dispute.  
1655 - ♂ #1 1657 - essentially all ♂♂ quiet. has been  
overcast with strong breeze since 1600.





LL Wolf  
1964

*Aimophila cassinii*

June 26

Welder Wildlife Foundation, San Patricio Co., Texas

1701 - ♂ #1 singing from 30-40 yds S of road & 1/2 way to telephone lines.

1706 - ♂ #1 flew 20 yds <sup>west</sup> along road giving short burst in 2-3' hackberry + gave long series of chitters. joined by a 2<sup>nd</sup> bird. then flew down into grass with a 3<sup>rd</sup>. ♂ #1 then back to east + 2<sup>nd</sup> bird gave chitters + flew 25 feet further west. ♂ #1 still giving flight songs + hear chitters from 75 yds west where #2 bird (not ♂ #2) disappeared. Also chitters from near where ♂ #1 singing.

1711 - Bird (2<sup>nd</sup>) flew 50-75 yds to S. (beyond phone lines) + gave loud chitter from top of 7' mesquite.

1715 - ♂ #1 back singing in area of 1600 activity.

1722 - 2 birds in same mesquite under phone lines just S. of road. one dropped almost to ground followed by 2<sup>nd</sup>. Then two flew out together one 6-12" behind other + flew in weaving course across road to N. turned W after 10-20 yards from road + then I lost sight of them.

June 27

Welder Wildlife Foundation, San Patricio Co., Texas

arrived at 0530. noticed ♂ #1 (or ♂ #3) was singing. Heard

pair chatter calls from both pairs + saw two birds together in both territories. Then quiet from both sides of road.

0600 - bird on N side of road & E end of terr. #3. flushed into clump of hackberry. Then into top (E). Then to west along road foraging in relatively bare area. moves down about 40 yards then flew across road to E. edge of terr. #1 + disappeared.





LLW:lf  
1964

*Amphispiza cassinii*

June 27

Welder Wildlife Foundation, San Patricio Co., Texas

0655 - 2 birds flew from W 50 yds. S of road. one lit on either side of circle of activity in terr. #1.

3 0705 - heard chatter call w/ g. walked down there & found three birds moving usually as 2+1. one ♂ + prob. ♀ + full grown young. moved to S until 40-50 yds. from road then turned E. one bird separated or went further S. ♂ continued to E. 3<sup>rd</sup> bird disappeared. ♂ now (0717) back 50± yds. from road near where other bird separated from group.

young fly / food 0815 - found adult with food near S end of 40-02. Flew down to base of hackberry. Flushed adult + young - tail essent. full grown. young flew 50-75 yds SW. Adult on 10-15 yds SW where sat on bare branch at top of 4' hackberry + ate a green caterpillar. Mandibulated it several times (axis of worm into mouth) before swallowing.

0903 - in terr #1. ♂ to E to W. edge of yesterday's circle. Song flight ended in hackberry 10 yards S. of road. Closest shrub to road. 1 min ± later flew parallel to road to W for 30± yds. + lit on ground. Only part of song - started just before landing. Had characteristics of song flight except was horizontal. 0907 - back to S 50± yds. Song flight ends in 3' hackberry. 0907.5 - to SE 20 yards. land near top of 4' hackberry and sing once perched. then 25 yds to NW ending in song flight to top of 7' Mesquite.

0909 - another bird flew SW from near road about 2-3 feet above ground + with fluttering flight of song flight but horizontal + giving chattering call. ♂ then gave soft





{ = flight song

LLWOF  
1968

*Arreophila cassini*

June 27

Welder Wildlife Foundation, San Patricio Co., Texas

Chitter

Chittering call + flew down from perch.

family

0945 - found a 4<sup>th</sup> family group along road - on N side near phone lines. - 2 yg. + adult flew toward. One adult with food flew toward road. Lit at base of mesquite. As I approached to 30 yards jumped up into top of mesquite (3') + then worked down to base again. Hopped along ground until under branch 8-10" up. Jumped up three times + pecked at ~~the~~ leaf. Then a young appeared. Both worked interior of bush away from me. Flew up to E. one (yg?) only 10-15 yards, ♀ 25+ yds. Then lost track of both.

chitter

1000 - ♂ in terr. #3 gave three consecutive chitter flight songs - one flight 50+ yds to W. parallel to road. Then 2 regular songs then silent.

chitter

1025 - ♂ in terr. #1 gave chitter flight song. ♂♂ singing both to E + W.

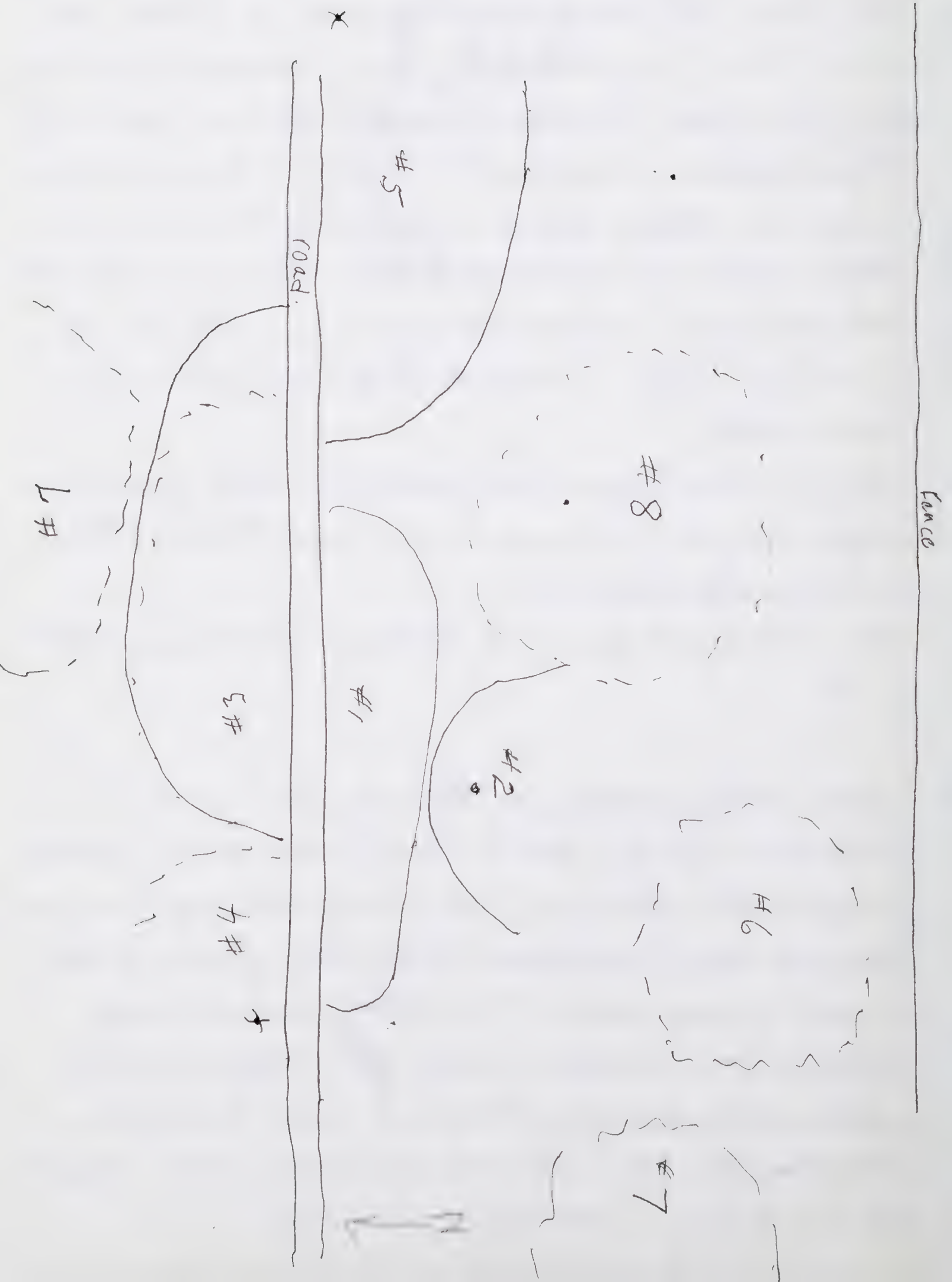
June 28

Welder Wildlife Foundation, San Patricio Co., Texas

0550 - hear chittering in terr. #1. Bird flies to W + lands at base of mesquite then farther W (total 50-60 yds) to fly into lower branches of mesquite + then drop to ground. Another flies in from W to land in middle of grassy patch. 0555 - adult flies up to top of mesquite + lands on vertical dead stem ~~ff~~ flutters + moves to another vertical stem again flutters as if unable to maintain that position, then flits to horizontal perch + stops. 0600 - disappears. Can hear chipping in grass, but no sight of birds.

June 28

K = foot  
markers





LLW6/F

1964

*Aimophila Cassini*

June 28

Welder Wildlife Foundation, San Patricio Co., Texas

0645- unable to locate pair #1. Walked down road 75 yds to E to where ♂ giving flight song. As I approached bird flew across road to W continued ~ for 50+ yds. then turned W for 20-30 bringing it into what I thought was terr. #3.

0652- ♂ gave chitter flight song from terr. #5 - 100 yds S of road. ♂ #3 then gave chitter flight song 10 yds W of road. Lit on ground at N edge of ditch along road.

0710- Bird flew from 100 yds from Road (S) to SE corner of terr. #1. Sat in top of mesquite there to base of mesquite 10 yds. closer to road. Foraged in shadow of mesquite + out on open bare ground. Then flew toward road but blocked from view.

A Bird then seen in top of 7' mesquite across road. Heard chipping + bird flew to NW. Met two others - one which he chased + other dropped down in grass. Chase was for 40-50 yds in weaving pattern ending along edge of road where leading bird dropped onto ground in ditch. ♂ then fluttered to nearby 3' hackberry giving chitter song. This to W of where 3<sup>rd</sup> bird disappeared. A bird possibly #3 + maybe bird initially from area #5 flew from N to S side of road. Flew across east edge of #1 to 100 yds from road where perched in top of 6' hackberry. A second bird flew across giving soft chittering - not song + ♂ in area #3 gave flight song + flew to NW + turned W toward area #4.

0721. ♂ came from third bird had landed toward road gave chattering flight song + lit 30 yds from road in 2' hackberry. Then disappeared.





LL Wolf  
1964

*Aimophila cassinii*

June 28

Welder Wildlife Foundation, San Patricio Co., Texas

0740 (terr. 3) - bird flew in from W. lot in top of 4' hackberry then dropped down on back side. Looked to have food in bill. When I approached flushed from 10-15 yards farther E toward SW road. Lit in 3' agave on end of leaf. Worked down to inner base + started toward interior then out to exterior + up to top. As I moved around area from where flushed it flew to N. 50' due west of me (50 yds.) Sat in top of 5' hackberry + preened. When I shifted positions for better view flew to W + disappeared below level of bushes.

0810 - found bird (terr. 3) with green louse in bill. Under mesquite partly hidden from view but bird was at least mandibulating it + seemed to be flailing it. Several times worked 1' up in mesquite carrying louse then to ground. up after 15± sec. + bill wiped on perch 6-8" up. Changed perches + bill wiped again. Then back to ground. Foraged in close to base of mesquite in shade - perhaps as this was side away from me. Only seen every 5-10 sec. After 1<sup>st</sup> imm. I walked toward mesquite. ♂ flew up to east from bush 20 feet to SW. gave chit. flight song. Then a 2<sup>nd</sup> bird flushed at my feet + flew off to NE. Bird that I assume is same ♂ gave another chit. flight song + lit 75-100 yards to east of mesquite from where flushed.

0830 bird flew across road from N. (east end of terr. 3) into terr. #5 then to SW 20-30 yards farther into terr. 5. Chit. flight song to NW to edge of terr. #1 (east) then back across road (to N) to 75 yds. N of road. Then disappeared then in terr. #3.

0852 - adult flew from circle area of terr. 1 across road to N. + disappeared into terr. 3.





LLWOF  
1964

*Aimophila cassinii*

June 28

Welder Wildlife Foundation, San Patricio Co., Texas

0858 - found adult in area #7. Flew to SE 10 yards + lit in top of 5' hackberry. Gave one partial song. Hear chirping to W. ♂ flies to W + curves S. Another bird flies out to hackberry to where sits with bill opening + closing then flies to SE 10 yds to another hackberry. Joined by ♂ who perches 6-8" away + slightly below the ♀. Slightly SH for 1st time, then 2nd bird flies off to SW + disappears as dropping down behind hackberry. ♂ remains for 1st time longer then flies up to W. in dist. fly song. Then lost from view.

0925 - flushed adult from N end of terr. 7. Flew us into top of 5-6' hackberry where sat preening, fluffing feathers, flicking tail, + occasionally appeared to hold wings slightly out from body + flutter them. Flew off to S 50± yds. Flushed another bird (yg.) from clump of short mesquite around tall mesquite. dropped to ground 20± yards to E.

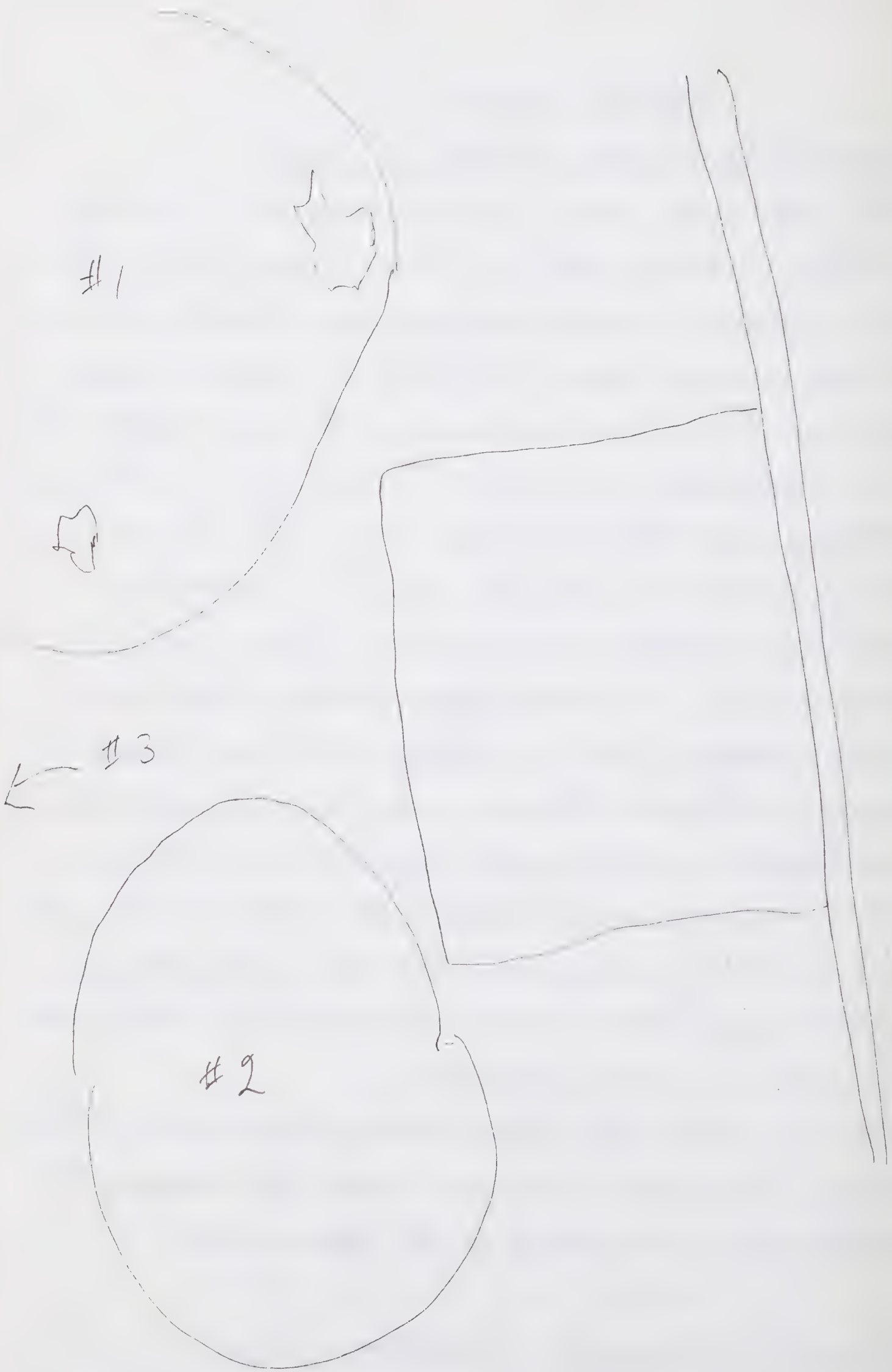
0931 - hear chirps from yg. + adult. adult flies into 8' mesquite where immediately joined by young. both prob. Clark Sparrows. adult was Clark Sparrow, but young did not show any white in tail when it flew - so prob. the yg. Cassin's.

1010 - there has been no continued period of activity in terr. #7 this morning. Pair has probably moved out + maybe birds occupying #5 but there has been bird singing on earlier days over there.

June 29

Welder Wildlife Foundation, San Patricio Co., Texas

0600 - arrived at mesquite tank. ♂♂ giving flight songs two ♂♂ giving flight songs within 75-100 yds of each other. (see back)





*Aimophila cassinii*

June 29

Welder Wildlife Foundation, San Patricio Co., Texas.

♂<sup>#1</sup>, landed in top of hackberry after flight song. another bird flew in + lit  $\frac{1}{2}$  way up. 2<sup>nd</sup> bird then flew to 30-40' tree (lower dead branch (4' up) + ♂ followed giving part of flight song.

Songs of ♂ #2 - 4 in 2 min not actively singing

flight |||| perch 0

~~perch~~

#2 - 0629 16 song in 5 minutes.

flight |||||

perch ||||

to same perch ||||

to different ||||

used only three different perches - all within 15 yards of each other. most frequently used was top of 4' hackberry. next was some dead wood stems. ~ 3' high. flight goes 20-25 feet in air. song starts about 5' below apex + is finished 10± feet before landing.

0637 - seemingly paid no attention to painted buntings that moved by a 20' in front of ♂ #2.

0639 - quiet 0640 - singing again

have heard only one dist. fl. song + that from ♂ #3. not same of circumstances.

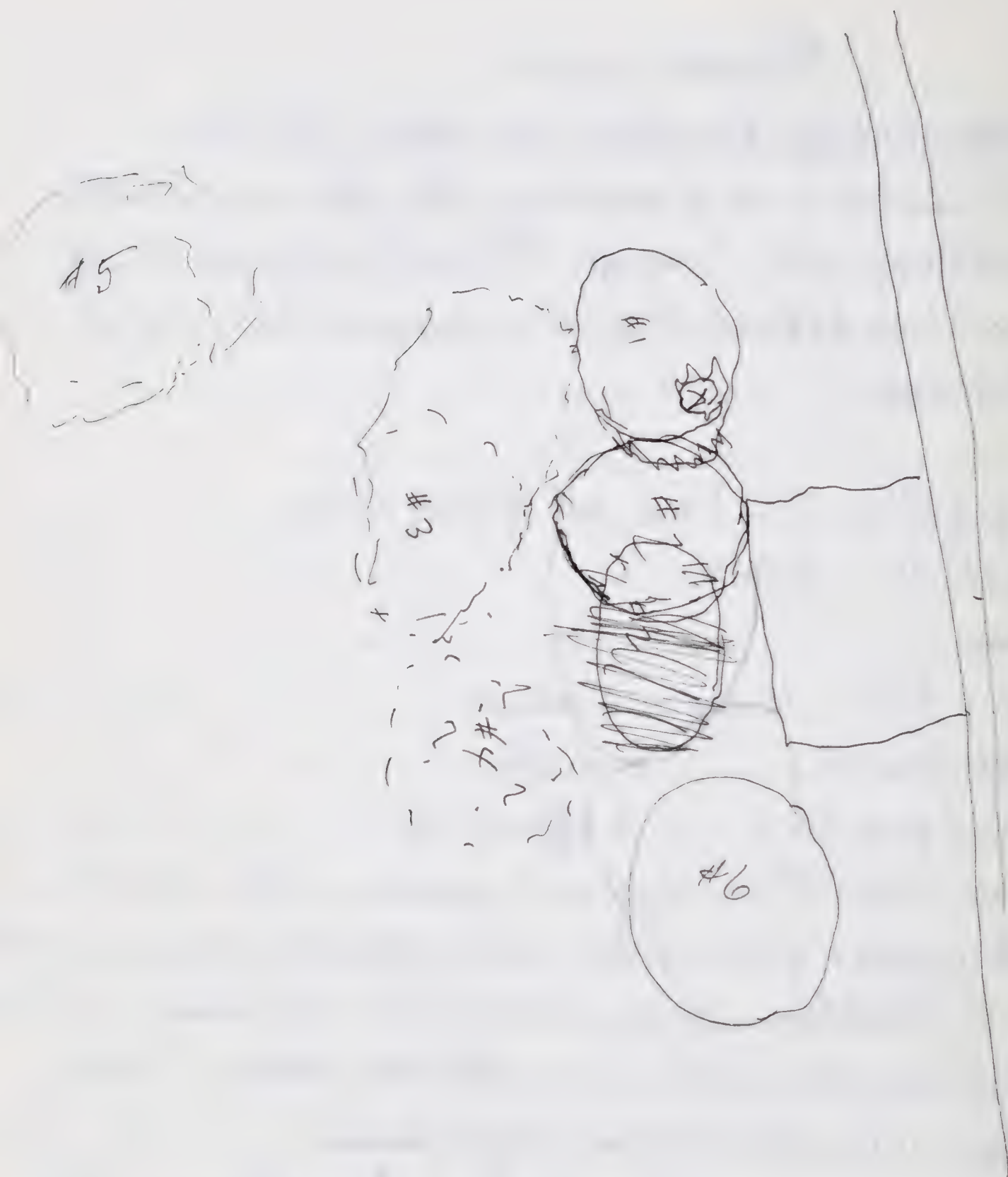
0648 #2 - 5 songs in  $\frac{1}{4}$  min.

flight ||

perch |||

same perch 1

different 1





LL Wolf  
1964

17

*Aimophila cassini*

June 29

Welder Wildlife Foundation, San Patricio Co., Texas

0659 - <sup>terr. #3</sup> ~~♂~~ <sup>bird</sup> - sitting on top of 4' mesquite in clump - preening.  
a ♀ - plumbeous Painted Bunting flew in + displaced the sparrow.  
sparrow flew to NW 20 feet where sat in top of another shrub.  
quiet; occas. preening.

0704 - same bird still sitting - top of mesquite. another bird  
appears near top of shrub 40-50 yds. to W. flies over toward  
my bird about 8-10 feet above ground. 4-6 feet above level of shrubs.  
moves off to N as 20-<sup>15</sup> yds to W + as my bird flies off to  
denser shrub clump to S.

0715 - walked over to where incoming adult flew. found chirping  
adult, occas. preening, after 4± min. in which once dropped  
toward ground, flew to W. followed in 2-3 sec. by a 2<sup>nd</sup>.  
2<sup>nd</sup> then chased by 1<sup>st</sup> year ♂ Painted Bunting. Both flew  
back to E 1/2 way to where I am. sat on top dead branch of  
hackberry + at least one was chirping. One disappeared +  
other flew back to W. (0723).

0723.5 - ♂ #4(?) gave chir. flight song. ~~prob.~~ possibly is same  
bird as heard giving it before.

0732 - adult (terr. #3) flew out from SE corner + to NW. followed  
immediately by 1<sup>st</sup> yr. ♂ bunting which caught up + two birds  
came together + dropped into mesquite. a 2<sup>nd</sup> adult flew in + lit  
in top about where two had dropped in. 15± sec. later bunting chased  
this bird 5-10' thru mesquite, but no apparent contact.

0755 - adult chirping. hopped into top of mesquite with green larva  
~ 3/4" long in bill. sat holding larva + chirping. manipulated  
larva + swallowed end first. then bill-wiped, dropped down





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1964

*Alouatta cassini*

June 29

Welder Wildlife Foundation, San Patricio Co., Texas

to near or on ground for 10-15 sec. then back up to 2' (3-4' below canopy) where sat chipping. A bird flew past at 30-40 feet up & my bird flew off just above shrubs & then rose to 20± feet when in same flight line. Followed bird for 50-75 yds. to E & then dropped into grass as other bird continued on to NE until lost from sight. probably this same bird as I am watching flew from where ♂ #4? had given chit. fl. song to well into terr. #3. So perhaps only 3 terr. in this vicinity.

0835 - have pair of birds chipping & sitting up in tops of mesquite in restricted area in terr. #3 (E corner). ♂ suddenly flew off to NW & chased another bird - then circled around to S & sang from W or SW edge of terr. then back to E edge where sitting up chipping; ♀ flew off to SE & disappeared. ♂ then disappeared while I was writing notes, but can hear occas. chips & some soft chattering.

0839 - ♂ #1 gave ch. fl. song. ♂ #2 - regular song.

0850 - adult not into view so I walked up to that area. ♂ flew off to NW from NW of where he went down. as came to area of thick mesquite 2-3' high where birds seem to concentrate their activities ♀ flew off to SE 20-30 yards & was lost to sight in the shrubbery. After 2-3 minutes of stumbling around a young bird with  $\frac{3}{4}$  ± grown tail flew up to tops of shrubs moved to S for 5± yds. & dropped into another mesquite clump (4-5' high). I thrashed around in there for 1± min before flushing young right at my feet. flew off to SW giving soft series of chip notes. female flew in & perched just behind young. She perched in top of





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*Amphispiza cassinii*

June 29 Welder Wildlife Foundation, San Patricio Co., Texas

4-5' hackberry + gave several chips + was silent. Young flew for 30-40 yds. + dropped into dense clump of mosquito + hackberry. ♂ not seen.

0913 - ♂ #1 singing mostly from perch.

0915 - 9 songs in 2 1/2 min.

6 perch

3 flight

same perch - 1

different - 2

3 flight songs were lost three songs given before dropping to ground after last flight song. All 6 perch songs given from same perch in shade near top of hackberry. An open but under for leafy branch

0921 - flight song ♂ #1 + one farther to NE also

♂ #3 singing. 6 perch songs, then partial flight song + change perch to dead stick in open. another flight song to top of live branch on hackberry. ♂ #1 also singing. 3 perch songs + then (0925) flight song returning to same perch. ♂ #1 + 3 also singing. 6 perch songs - 1<sup>st</sup> 3 in sun; next 3 in shade then flight song changing perches to 30 yds. ± to SW. 2 perch songs + then flight song back to hackberry (0929). In sun on other perch.

(0931) - after 5 perch songs slight ruffling of feathers + turn 180° then flight song + drop to or nearly to ground.

0942 - left for 5 minutes to talk to Dick (he has 19-20 birds).

♂ #2 quiet until 0950.

0946 - ♂ #1 singing ♂ #2 still quiet.

0950 - two flight songs. one seemed to end at tree where I am sitting then ♂ veered off + back to hackberry where sat on exposed perch for 3 songs - (seen under cloud for 2) then dropped into shade + sang three more.





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1964

*Amophila cassini*

June 29

Welder Wildlife Foundation, San Patricio Co., Texas

0955 ♂<sup>#1</sup> singing. 0956 - ♂<sup>#2</sup> flies up about 5 feet above perch & gives complete flight. then perch songs - 43  
gave 14 perch songs in 5 min. of 43 perch songs 18 were delivered when sun behind cloud & 2 from exposed perch in sun. then bird dropped into shade of top branches; still on bare, exposed perch but shaded.  
then 2 songs after sun went under cloud ♂ gave flight song returning to same perch, but on top, exposed, dead branch.  
Song 2 then moved into shade 2 songs before sun really bright again. then 7 more before flight song. returned to same bush but on exposed branch as sun under cloud for rest 5 songs. 1017 - out in sun for 4 songs then into shade.  
Gave 59 songs in 21 minutes. of these only 3 were flight songs (includes 43 mentioned above). During much of this time ♂<sup>#2</sup> was sole singer - ♂<sup>#1</sup>, 3, & 6 contributed. Perhaps this is an unmated bird or ♀ is incubating.

♂<sup>#2</sup> sang sporadically between 1017 + 1023. then flight song to new perch where into shade for several perch songs.

1027 - dropped down to grass then flight song back to hackberry. lit in bright sun but immediately walked down into shade where sat singing.

June 30 Welder Wildlife Foundation, San Patricio Co., Texas.

Arrived at 0545. ♂<sup>#2</sup> singing - mostly flight songs. Sang essentially continuously until 0900 when left area. See following notes.



song perches of ♂ #2

#15

9  
8

08

12



+



10

#13

50  
yds.



3



2

11



1

10-20 yds.



6



7



11

LLWOLF

2.

*Amorphila cassinii*

June 30

Welder Wildlife Foundation, San Patricio Co., Texas

0638 - 0642 = 4 min. 11 songs 2 songs/min

flight <sup>100%</sup> ~~11~~ 1 perch 0

perch # 3, 3, 3, 3, 3, 3, 3, 3, 3, to grass (W of 3)

0642.5 - 0645.0

2.5 min

Flight <sup>100%</sup> ~~11~~ 11

perch. 0

perch # 3, 3, 3, 3, 3, 3, to grass W of 4.

both times dropped to grass for 30 $\pm$  sec. & then immediately back to singing with song flight to perch.

while I was recording he used almost exclusively perch #1.

I was then much closer to #3 while now am beneath #5.

0648 - to grass for 30 $\pm$  sec. (recording only breaks in singing.)

0651 - drops to grass for 20 $\pm$  sec. back to song perch #3 with song flight.

0654.5 - to grass for 20 $\pm$  sec. (W of #4.) flight song to #8. then to 9

0655 - from perch #9 to #3 with flight song.

0659 - flight song to #10; then flight song toward #8.

0706 - to grass near #3. 0707.5 - to #3 with flight song.

0712 - to #11 with flight song. This perch is nearly vertical with angle at top so provides 60 $^\circ$  perch. ( ) otherwise most perches are horizontal or nearly so. back to #3 with next

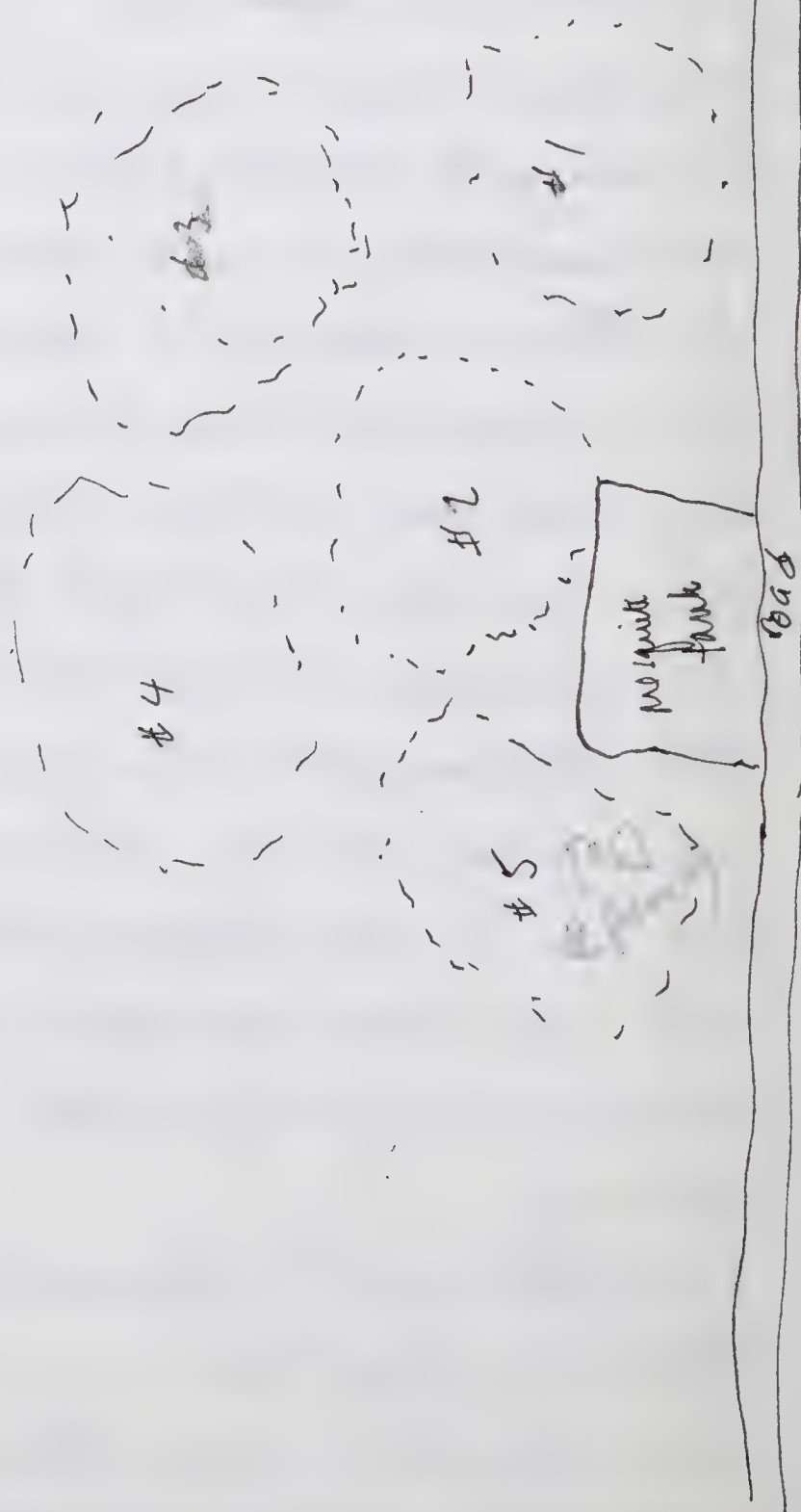
flight song.

0716 - flight song to #7. where performed 2 consecutive perch songs followed by a flight song.

0718 - after quiet for 1 $\pm$  min. flight song back to #3.

wind beginning to pick up. noted (0721) more fluttering at top of song than usual. To check in quest of wind.

Cassin Sparrow Territories  
Sec. 44 Lot 8 etc. June 30 1964  
by location of singing ♂♂











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1964

*Aimophila cassinii*

June 30

Welder Wildlife Foundation, San Patricio Co., Texas

0752 - back to #3 with flight song.

0805 - down to ground W of #3 for 1<sup>st</sup> min. flight song to about same location + then flight song back to #3.

0813-0815 - on ground W of #3 + #4. flight song back to #3.

0818-0820 on ground W of #4.

0826. ♂ #1 gave 2 essentially continuous flight songs followed immed. by Clint. Sh. song about 50 yds. to E of ♂ #2. ♂ #2 went up in flight song + moved from perch #3 to #7.

0828 - no more songs from ♂ #1 + ♂ #2 flight song back to perch #3 after 3-4 perch songs on #7.

0830 - to #12 in flight song + then back to #3.

0832 - moved down to interior of perch #3. when in shade - perch songs ~~||||~~ until 0835.5 where hopped onto exposed perch + gave flight song.

0836.5 - 0839 to ground W of #3 (5-6').

0840 - 0845 - 20 song in 5 min. 4/min

flight <sup>50%</sup> ~~||||~~ perch <sup>80%</sup> ~~||||~~ ~~||||~~ ~~||||~~

to perch #3, 3, 3, to ground W of #3.

first 9 perch songs were consecutive. perch songs seem to occur more frequently than flight songs.

0846 - back to perch #3 with flight song.

0849 - below top for series of perch songs then to top of #3 for one perch song then flight song end just NW of #3 on ground.

0851 - back to perch #3 (top) with flight song starting at or just above ground. then flight song from #3 ending below top of #3 when gave perch songs.





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1964

*Aimophila cassinii*

June 30 Welder Wildlife Foundation, San Patricio Co., Texas

0855-0856 - on ground just n. of #3. then back to #3 with flight song. singing down from top 12"±, series of perch songs.

0900 - up to top of #3 where launched into flight song. In flight light as tail spreads at top of flight outer light areas of tail are distinctly visible.

0904 - ♂ #1 gave chit. fly song + ended with part of regular song. ♂ #2 flew from S of perch #1 in flight song that ended on perch #1 (closer to ten. #1 than perch #3). then flight song (from below top in shade) to perch #3 where sitting out facing sun + giving perch songs.

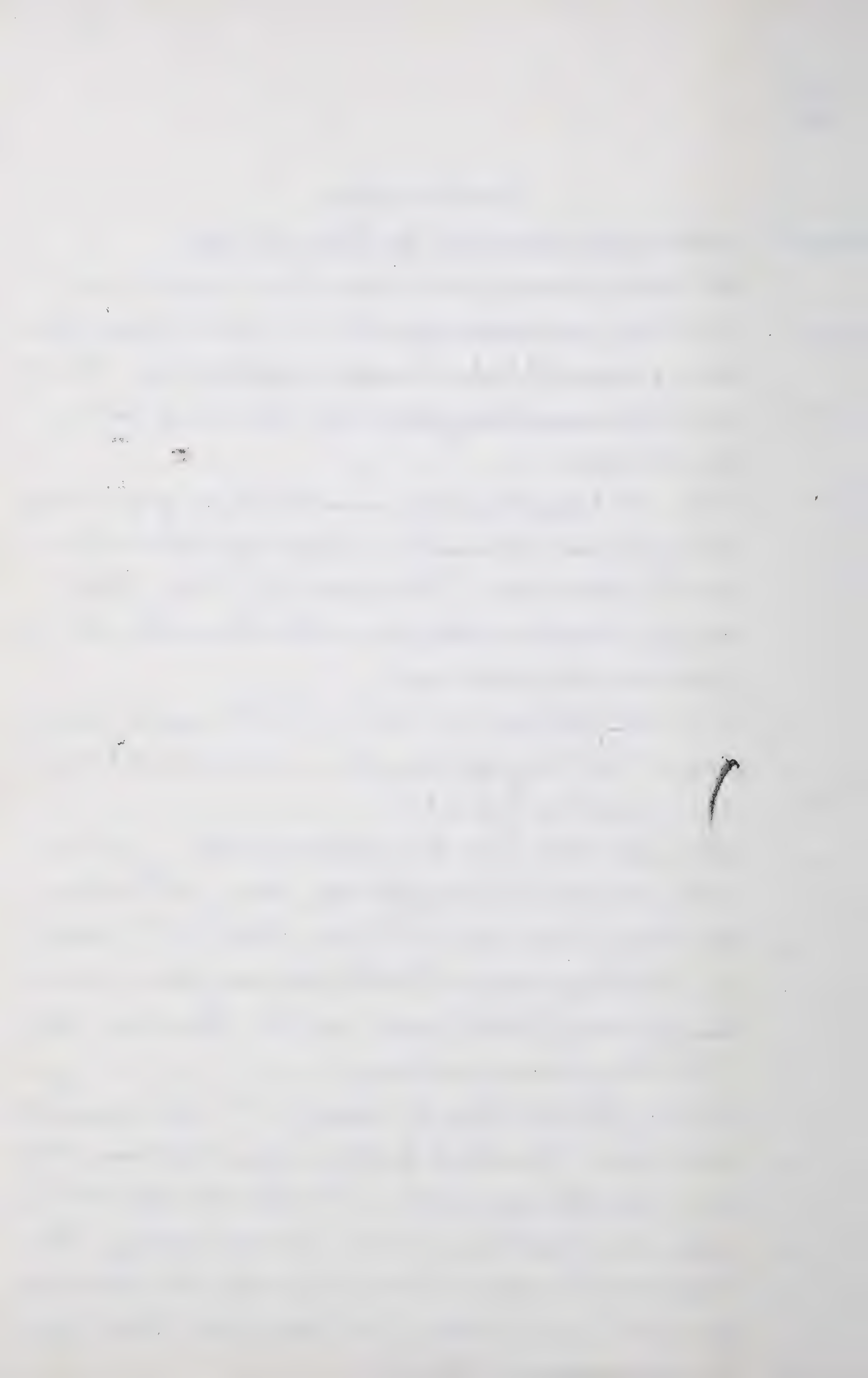
0910 - after flight song at 5'± to W of #3 then another flight song to #10. then flight songs (111) returning to #10.

0912 - flight song back to #3.

0916 - flight song to #10 - then flight songs returning to #10 then flight song to #3. one flight song returning to #3 interior then series of 2 perch songs. ♂ #1 sings (0918) + ♂ #2 gives 111 flight songs from perch #3, then perch song from interior then flight song (0920.5) ending on #10. then silent until 0923 when gave one perch song.

0923.5 - flight song back to interior of #3 where gave 111 perch songs. then hopped to exterior + gave flight song. then

11 more flight songs from #3. 2<sup>nd</sup> went to area of perch #1 where sat on dead branch out 5-6' from main hackberry. then 5<sup>+</sup> flight songs. last going to #1 where sat on top. Two flight songs from perch #1 ending (tth on dead branch again. then flight song ending on ground. (0929.5).





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*Aimophila cassinii*

June 30 Welder Wildlife Foundation, San Patricio Co., Texas

0931.5 - up from ground just E. of #3 in flight song ending at #3.  
where gave three perch songs just below top. then III flight songs.  
then perch songs - II. 0934.5 - flight songs - I then perch song, flight  
flight, perch (from down in shade), perch - III then out to exterior  
where sang one perch song, then flight song ending just E. of #3. (0939.5)  
0940 - 0945. - 12 songs from 0941 - 0945.  
flight - 0 perch - 100% to perch #3  
perch, P, P, P, P, P, P, P, P, P, P, P, P,  
first min (40-41) bird was on ground to N. of ~~perch~~ #3. + not  
singing, reappeared on perch #3 in exposed position on W side  
of shrub about 15 sec. before started singing.  
left area at 0950.

July 1 Welder Wildlife Foundation, San Patricio Co., Texas

Arrived at Mesquite Tank at 0545. ♂ #2 singing, but could  
not find either ♂ #1 or #3. Walked 300+ yds from road & found  
several more singing ♂♂ along way. Stopped at one singing  
actively. Most flight songs, but ~20% perch songs. Have at  
least 3 birds in this area - all appear full grown so + at  
least one is a bird of the year.

0605 - 0615 - heard of 10+ stars moved thru area in which I  
am watching. ♂ quit singing while around his song perch.  
hear soft chips from several locations. Also heard several  
chitter series as birds were flushed ahead of cattle.

0618 - ♂ back on song perch.





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*Aimophila cassinii*

July 1

Welder Wildlife Foundation, San Patricio Co., Texas

0620 - 0623.5 - 10 song in 3 $\frac{1}{2}$  min.

flight - IIII perch - IIII

changed perches after each flight song - 1<sup>st</sup> to SE where another ♂ singing 100± yds. to SE. then to <sup>W</sup>~~E~~. where two ♂♂ singing then quiet for 2<sup>nd</sup> min while down in grass. song flight then to N to perch where first seen (#1) - see map on back.

0626 - 0632 bird quiet. can hear chirping to E of me.

0632 - 0636 perch, perch, perch. Fl. to #4, perch, perch, perch, perch, perch, perch, perch, perch, flight. dropped down to SW behind clump of mesquite - out of sight. Quiet.

0630 - wind 5-10 mph. + rather gusty.

0642 - flight song from W of #4 to 5 yds. ending #4. then perch songs ~~IIII~~ IIII to 0646. then quiet altho still on perch.

0647 - perch song can hear chirping to E. of #1 perch.

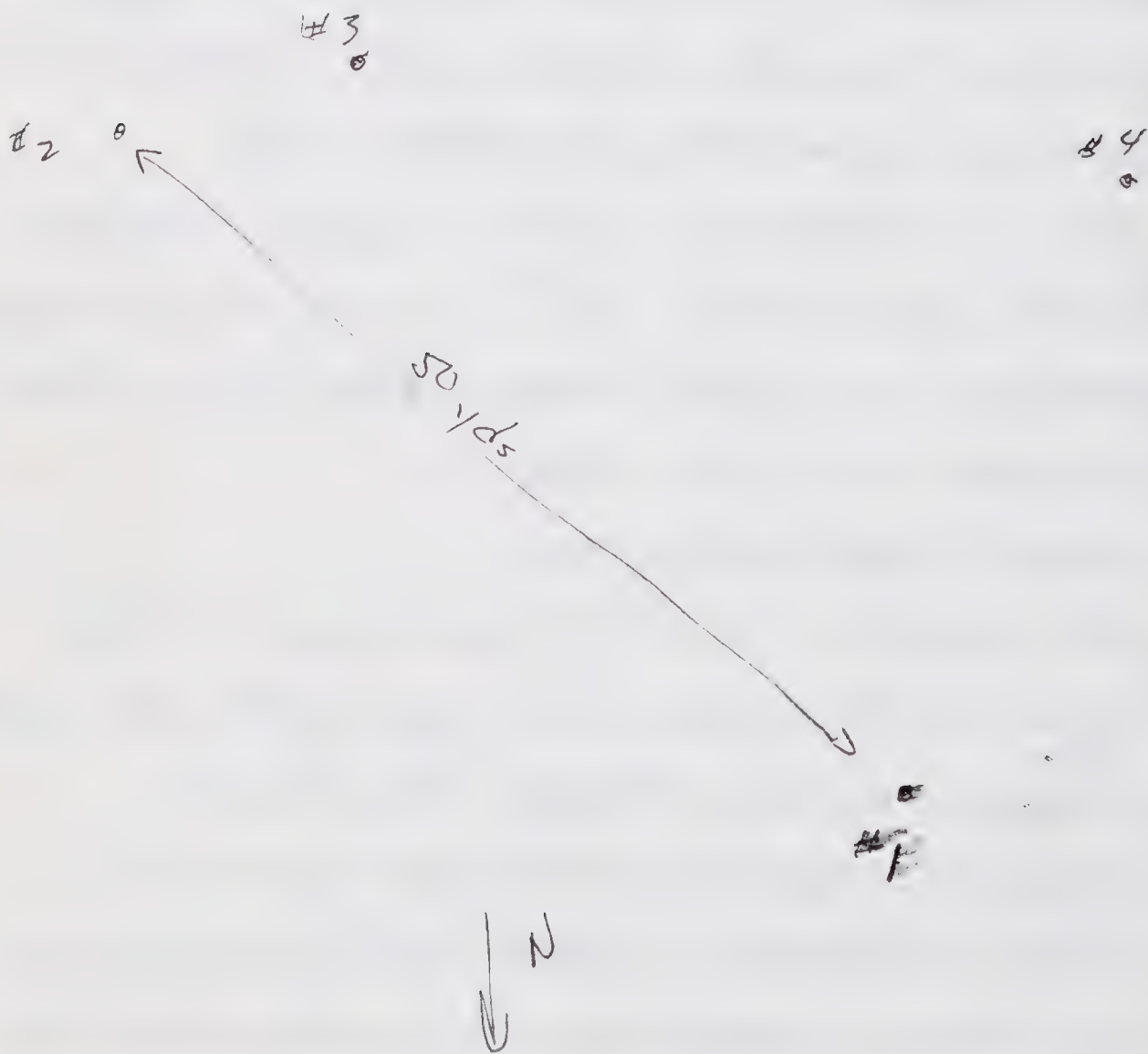
0648 - ♂ left perch - apparently silent flight to perch #3.

0655 - at least 20000 singing west of my ♂ + two singing east. S. of his terr. is grassy area with no shrubbery + very scattered trees. N. looks like good habitat but no birds heard from there.

0705 - adult from this territory with food in bill + young in same shrub. Also ♂ fainted bunting. Young dropped down toward ground, ♀ followed. young flew out to NE followed by ♀ which was being chased by the bunting ♂.

0713.5 - ♂ gave song from on or near ground. then flew up to perch #1 giving flight song almost in stall just before landing.





to observe

LWOLF  
1964

*Aimophila cassinii*

July 1

Welder Wildlife Foundation, San Patricio Co., Texas

then perch songs - ~~THH~~ ~~THH~~ ~~THH~~ ~~THH~~ ~~THH~~ ~~THH~~ <sup>(30)</sup> until 0726

have birds singing to E + W. sound as if several territories away + adjacent  $\sigma^7\sigma^7$  in both directions. my  $\sigma^7$  initially facing W then turned E for 4 songs then back to W. Songs given from bare part of 3-4' high hackberry. branch 18-15° above horizontal + has few leaves. Wind - 10+ mph. + gusty.

0720 - 0725 - 12 songs in 5 min. <sup>2.4/min</sup> also preening between songs  
fl. O perch ~~THH~~ ~~THH~~ <sup>150%</sup> ~~THH~~ = 12.

0724 - flies silently to perch #3. where began singing again from perch.

0726 - disappeared - probably down to ground - silent.

0736 - 2  $\sigma^7\sigma^7$  singing to W. + one to E.  $\sigma^7$  here quiet.

0737 - flight song to perch #4. then perch songs - ~~THH~~ 1 singing from dead stalk ~ 3' tall. stalk at ~ 60° to horizontal where  $\sigma^7$  sitting facing to SW.

0739.5 - flight song to SW where  $\sigma^7$  disappears near edge of grassy area. + quiet.

0750 -  $\sigma^7$  #1 gave one perch song + then quiet.

0757 -  $\sigma^7$  #2 (#1?) flew to W 20± yds. giving chir. flight song.

0802 -  $\sigma^7$  flight song from 70-80 yds W. of #1 perch to 30+ yards W. then dropped into grass.

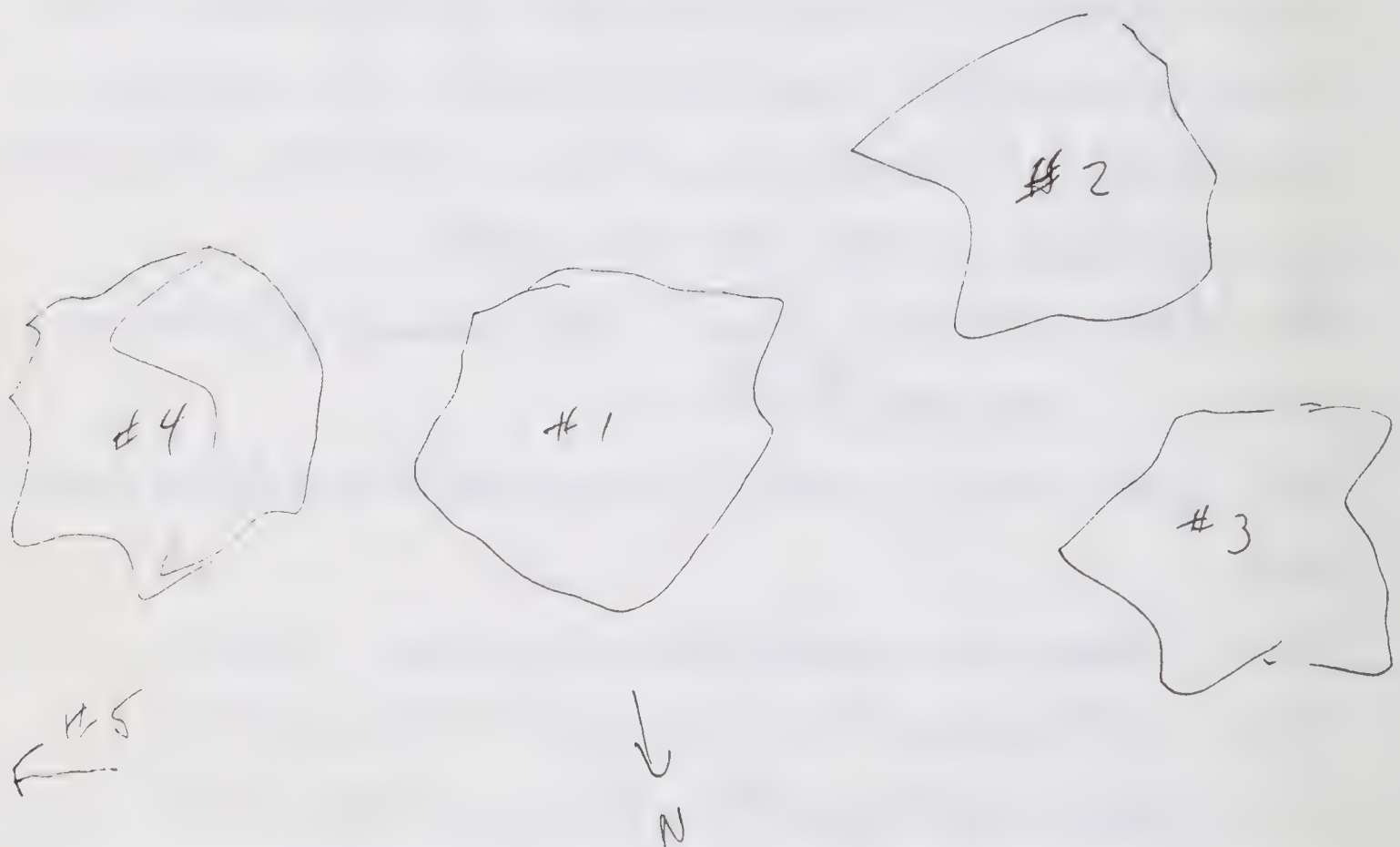
0812 - can hear chipping to S of me.

0817 -  $\sigma^7\sigma^7$  2, 3 - singing

0830-0850 left area to talk to Dick - my shotgun is broken.

0858-0859 -  $\sigma^7$  #2 sang. no sight of or sound from  $\sigma^7$  #1.

approx. location of singing ♂ Cassin's  
Sparrows while watching ♂ #1. July 1, 1964





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# *Amphispiza cassinii*

July 1

Welder Wildlife Foundation, San Patricio Co., Texas

0907 - bird up into perch #2 - about 1/2 way up in 8' bush. bill-wiped.

0911 - ♂ #2 singing - go over there for rest of morning's work.

unable to locate ♂ #2 so looked for ♂ #1 + #5 of June 30 - close to Mesquite Tank. Unable to find either. Wind so much stronger than yesterday will work rest of morning comparing activities of ♂ #2 of June 30 to July 1.

0940 - perch song

0942 - flight song to #10 then flight song to #2 wind blowing in about that direction & bird seemed to be carried by wind.

flying + wind. from perch #2 delivered perch songs ~~###~~ ~~###~~ ~~###~~ ~~###~~ ~~###~~

0949 - 0951 - 6 songs in 2 min. then quiet. not sure if left perch or not.

0957 - flight song to perch #3 where perched on W side but on exposed perch. gave 2 perch songs then flight song to #2. then (0958) gave perch songs ~~###~~ ~~###~~ ~~###~~ ~~###~~ from interior of bush - on horizontal limb ~ 3' above ground limb is bare & shade is provided by overhead branches. Wind blowing branches alternately puts bird in shade & sun. mostly in sun.

♂ #3 sang 3 times at 1002. ♂ #4 at 1004.

1006.5 - ♂ #2 flight song to perch #3. followed by 2 more flight songs - 2<sup>nd</sup> ended near perch #10 - prob. on ground. then silent.

1010 - to perch #3 with flight song. then perch songs ~~###~~ ~~###~~ ~~###~~ ~~###~~

1016.5 - ♂ #1 gave chat song near N corner of mesquite tank.

♂ #2 then with flight song 30-40 yards to SE into what I thought was edge of den. of ♂ #1. ♂ #5 sang once.





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29

*Amophila cassinii*

July 1  
chitter

Welder Wildlife Foundation, San Patricio Co., Texas

1022. bird near where ♂ #2 went down giving chitter series. then saw bird flutter 20-30' up + giving chitter series, then broke into warbly flight song (chit. fl. song) + dropped to ground. As landed a 2<sup>nd</sup> bird flew by at brush top level + lit 5-10' beyond.

1023.5. bird rising into air against wind so going almost straight up. gives series of chips until nearly at top where broke into flight song. Bird landed only 20-25 yds N of perch #7.

1027.5 - ♂ #2 flight song to perch #1 where gave perch songs ~~###~~ <sup>###</sup> appeared to come from between perches #3 + #1, but not sure. bird is not out on exposed limb so is prob. in interior of shrub. This is tallest of song perches ~ 8' as is #5, #7 is ~ 6-7' while rest are < 5'. has been singing most of these perch songs from #2 in shade on exterior of bush, same spot as at 0957.

Sang until 1045.5 or 36 songs in 18 minutes. then disappeared from perch.

1050 ♂ #2 back onto perch #2. one branch lower than at 1027.5.

perch songs ~~###~~ <sup>NE</sup> stopped at 1055 when flew to ~~NE~~ so just 20± yds. to N of me. dropped into ~~grass~~ ground after 1<sup>st</sup> landing on 3' dead shrub.

July 2

Welder Wildlife Foundation, San Patricio Co., Texas

Arrived at mesquite tank at 0550. ♂ #2 giving flight songs.

Seems to have changed perch slightly to SW using #10 + one between #10 + #3 (#13).

0558.5 - flight song back to #3.





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*Amphispiza caesia*

July 2 Welder Wildlife Foundation, San Patricio Co., Texas

0600 - just landed again #3 after song flight from #15.

fl. s. #3 - #13; fl. #13 - 10; perch; fl (10-10), fl (10-ground) 0601.5

0602 - fl. (#13-13); fl (10-10), fl (10-10), fl (10-10), fl (10-10), fl (10-10),  
fl (10-10); fl (10-3), fl (3-3), fl (3-10), fl (10-to SW).

0600-0605 - 16 songs (one possibly perch) in 5 minutes. <sup>3.2/min.</sup>

0606 - back to perch #3. can hear ♂ singing in distance from N.

(in feet)  
Estimated height of apex of song flights - 0608 to 0621

20, 18, 12, 20, 7, 18, 15, 15, 18, 20+, 15, 15, 15, 12, 18, 15, 15-, 15, 15, 15,

12, 12, 15, 18, 18, 15, 12, 12+, 15, 15, 18, 18, 15, 15, 18-20, 18, 18, 15, 12, 10, 12, 15,

42 song flights in 13 minutes. usually went up <sup>3.2/min.</sup> 15' or less when changing perches, once up to 18'. And all low values do not represent perch changes. There were no perch songs in this 13 min. interval. 100% flight

0628 - ♂ #2 several flight songs to S so now 30-40 yds S of perch #3. 0629 - one song flight back to #13. then S-fl. into #3.

0635 - ♂ #2 landed on perch in region of #13. dead weed stem - bare - + approx. 3' tail. At 60° L. with horizontal where bird is perched.

song flight begins with fluttery, rapid wing flight up nearly to apex, then stall + tail spreads as wings are outstretched. turn downward + glide back to perch with tail spread; flutter just before landing.

can see light veins on outer tail feathers when tail spread.

bird sitting perched shows head dark brown in marked contrast to grayer color of back. head richer brown than dark brown of tail.

0655 - flight song from #3 to over my head at #5. then heard to SW 30-40 yds. then flight song back to #3.





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*Amphispiza cassinii*

July 2

Welder Wildlife Foundation, San Patricio Co., Texas

0700 - 0710. 28 songs in 9 minutes of actual singing 1 perch song.

fl(ground to 3), fl(3-3), fl(3-3), fl(3-13), fl(13-13), fl(13-3), fl(3-3), fl(3-3),  
fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3),  
fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3±), fl(3±-3±), 0708- dropped to  
stem just above grass + then dropped into grass when quiet for 1 min.

fl(ground to 3), fl(3-3), fl(3-3), perch, ~~fl~~,

0730 - 0735. 14 songs in 4 minutes active singing.

perch(3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), perch, fl(3 to ground),  
on ground for 1 min., fl(ground to 3), fl(3-3), perch, perch,

After last perch song heard chatter to SW. ♂ flew over there

(40-50 yds) in direct flight - no pumping - just above level of  
shrubs. heard more chattering then one bird flew into  
clump of running mesquite + other (♂) stayed perch on 3' mesquite.  
then ♂ flight song back to ground NW of #3 (between 2+3) where on  
ground for 2 min. Up from ground in song flight to #3.

0742. as ♂ #2 singing I walked over to S edge of Fern #2 where  
mats #5 to look for bird that went down. It flushed from a patch of  
running mesquite + Opuntia + flew to SW into 6' mesquite where sat quietly  
except for short bout of bill-wiping then flew further to SW into 8'  
hackberry where gave soft chips then flew to S. well into Fern #5  
into 15' mesquite. This out in grassy region 100 ft S. of edge  
of running mesquite dominated area. Sat 1/2 way up on dead limb  
chipping softly from exterior of tree another bird flew in from S  
with soft chatter call. This 1st bird left + 2nd flew out to E. can hear  
soft chips + series of tzceet, tzceet calls. (more warby version of this  
is the chatter.)





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1964

*Amphispiza bilineata*

July 2

Welder Wildlife Foundation, San Patricio Co., Texas

Followed birds to E where three came together in a dead (mostly) 6' huisache (Acacia) shrub. Generally seemed to be two together + one separate but I think individuals changed around. One flew off to NE into Mesquite Tank + dropped into ground vegetation. Other two stayed 3<sup>+</sup> min. longer + flew to NW into area of 7-8' hackberry, mesquite + smaller Opuntia + Acacia tortuosa with spaces between covered with grass. Generally stayed on exterior of bushes unless I approached too closely then either flew or moved into ~~the~~ interior.

0820 - one bird flew into exterior of 4' hackberry. 2<sup>nd</sup> bird gave chip note as flew in.

0822 - I approached bush, one flew out to E. other to N. one to E dropped to near base of 8' mesquite + then to ground. other to N lit on dead branch in clump of growing mesquite at SW edge of terr. #2. ♂ #2 gave one song flight from #3 to 10 yds N of intruder. Then another low song flight (6-7') to 10 feet N of intruder. Intruder flew to W + was followed by ♂ #2, getting closer as follows, weaving flight finally (5<sup>+</sup> sec) into ~~hackberry~~ <sup>mesquite</sup> clump where heard chitter series just as they entered the clump. Then intruder flew off to S. ♂ #2 sat for 5-10 sec. + then flew off back to N. with song flight. started with long <sup>(80 yds<sup>+</sup>)</sup> nearly horizontal flight with only gradual climb then an abrupt climb to 30<sup>+</sup> feet + song. Landed at perch #2.

0840 - In terr. #5 had 4 birds congregating at exterior of hackberry clump. Each came in from different direction + at different time. First heard chitter from several birds scattered within 50-60 feet of hackberry. Then one into hackberry where sat





LL Wolf  
1964

*Aimophila cassini*

July 2

Welder Wildlife Foundation, San Patricio Co., Texas

chittering. As each successive bird flew in there was a chitter series usually also from remaining bird(s) in surroundings. I think the arriving bird may be the one that chitters. Sounded as if produced by only single bird.

0900 - 0910 - ♂ #2 24 songs in 6' 20" of active singing.

<sup>♂ sing</sup> p(3), p, p, p, p, p, fl(3-3), p, fl(3-3), p, fl(3-3), f(3 to ground)

0907 - fl(ground to 3), p, p, p, p, fl(3-3), fl(3-2), p(2), f(2-3) p(3), p, p.

was down on ground for 3' 40" presumably feeding to SW of #12 (near #8). Several times gust of wind caused trouble for bird in song flight. flight from 3 to 2 bird appeared to try to land at 2 was blown almost to #1 + finally worked into wind + parallel to direction <sup>from</sup> (SW of 5) + landed at #2.

1000 - 1000 - ♂ #2 24 songs for 7' 20" active singing.

quiet for at least 5 minutes prior to 1000. + for 40 sec. after 1000.

<sup>all 2</sup> p, p, p, p, p, p, p(2), p, p, p, p, fl(2-2) then dropped to ground (1004.5).

1006.5 - song flight from ground to perch #1, <sup>all from #1</sup> p, p, p, p, p, p, p, p, p, p.

all perches songs were given from shaded area.

1032 - left area

1602 - arrived back, ♂ #2 sang once just as I arrived + then quiet. 1611 - still quiet so go out to hunt for him. Unable to find any sparrows by 1705 so left area. Had started to rain lightly.





KL Wolf  
1964

*Amphispiza bilineata*

July 3

Welder Wildlife Foundation, San Patricio Co., Texas

Arrived at Mesquite Tank at 0545. ♂ #2 actively in flight songs.

0555-0606.5 - 36 songs in 10 min. <sup>5.64 min.</sup> Active singing.

<sup>40 sec.</sup>  
fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(5-10) (prob. to ground), fl(10-13), fl(13-3),  
<sup>1 min +</sup>  
fl(3-3), fl(3-4), fl(4-9), fl(9-3), fl(3 to ground near 13), perch(13), fl(13-3),  
fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3),  
<sup>36 sec.</sup>  
fl(3-3), fl(3-3), fl(3-3), fl(3-13 to ground), fl(13-3), fl(3-13), fl(13-3), fl(3-3),  
fl(3-3), fl(3-3), fl(3-3).

one perch song came after ♂ #2 had dropped to ground, just before he reappeared ♂ #3 or #4 to W. sang once. ♂ #2 then jumped to top of perch 13 + gave perch song then launched out into flight song back to perch #3.

0617-0628 - 33 songs in <sup>3 min.</sup> 11 minutes. Time of flight in sec:

1-3 3 3 3  
6.1, 4.8, 4.4, 4.6, ?, 5.4, 4.2, 4.6, 6.6, 4.4, ?, 4.8, 4.8, 4.9, 5.1, 5.0, 4.6, 5.0,  
4.6, 5.1, <sup>3-82</sup> 6.9, <sup>12-8</sup> 5.9, <sup>8-3</sup> ?, 6.0, 4.1, 4.1, 4.9, 5.1, 4.8, 4.6, 4.4, perch, 11.6, <sup>3-fence</sup>

the 6.6 sec. song flight followed some fidgeting on perch + then rather twisting flight to E. All this seemed to be in response to rapid series of soft chips from terr. #5.

0631 - heard another bout of soft chips from terr. #5 + ♂ #2 moved to W to perch for song flight as far in that direction as while I watched him. then back to #3.

0641 - flushed 3 birds from S side of terr #5. Were on ground around *Opuntia linhieri* + running mesquite, *Acacia tortuosa* in area devoid of tall shrubs except for few scattered mesquite trees. Flew into area of 8' hackberries separated by small islands + channels of grass. could hear rapid chips in bushes.











LH Wolf  
1964

Amphispiza cassinii

July 3

Welder Wildlife Foundation, San Patricio Co., Texas

0750 - unable to locate birds in terr. #5 during 20 minutes search. ♂ Painted Bunting singing in terr. #5. + <sup>1st yr.</sup> ~~1st yr.~~ ♂ P. Bunting singing from perch #1 in terr. #2.

0755 - 0812.5 - 39 songs in 10 minutes active singing

<sup>(3)</sup> p, fl(3-3), fl(3-2), fl(3-2), fl(3-3), ~~fl(3-3)~~ fl(3-3), p, p, p, fl(3-to ground)  
fl(ground to 3), p, p, p, p, p, p, p, fl(3-3), fl(3-2+), fl(2+ to ground)  
fl(ground to <sup>3</sup>), p, p, p, p, fl(3-3), fl(3-3), p, fl(3-3), fl(3-3), fl(3-3), p, p, p, p, p.

Most of perch songs were given from exposed perch out in sun. Some given from interior of #3.

0812.5 - 0827.5 - 39 songs in 10 min. active singing

<sup>(3 to ground)</sup> 7.5, ?, 4.5, 4.5, 4.5, 4.5, p, 4.9, 5.1, for 5 min., fl(ground to 3), p, p, p, p, p, p, p, 4.0, 4.5, p, p, 7.4, p, 4.0, p, 4.9, p, 7.3, p, 7.8, p, ?, p, 4.6, p, p, 5.0,  
<sup>♂ #3 singing</sup>

perch songs - 75-80% given from exposed perch in sunlight. numbers above refer to ~~at~~ seconds duration of song flights from time left perch to return.

0850 - again unable to locate group in terr. #5 in 25 minutes searching. did flush single bird from SW edge of Mesquite Tank into center of fenced area where sat (within 3' shrub on dead branch

0855 - 0910. In several minutes singing gave 28 songs - 24 perch songs.

fl(ground to 3), p, p, p, p, p, p, fl(3-3), p, p, p, p, p, p, fl(3-3), p, p, p, p, p, p, fl(3 to ground near 2), fl(ground to 3). was on ground for 3+ minutes.

all of perch songs were delivered from perch #3 + exposed to sun on elevated perch (exterior of bush). ♂ #3 singing occasionally to NW.

0905.5 - heard warbly (chitter) song from E of perch #3 by 50± yds. in terr. #1. ♂ #2 immediately flew over then + disappeared from my view as dropped behind hackberry.





HLWoff  
1964

*Aimophila cassini*

July 3

Welder Wildlife Foundation, San Patricio Co., Texas

and #2 quiet while in terr. #1 or vicinity.

0913. - ♂ #2 flight song back to perch #1, as finishing song & dropping down was chased by passing Myiarchus sp. Flycatcher lit in dead branches 3' up at edge of perch #1 for 10-15 sec. & then flew to SW. ♂ #2 then flight song to perch #3 where sang.

0916 - 0919 - 11 songs in 3 minutes. 7 <sup>67/10</sup> perh songs.

fl(3-3), p, fl(3-3), p, p, fl(3-3), p, p, p, p, fl(3 to ground). on ground a 90 sec.  
then flight song back to #3.

0921-09255

$p, p, fl(3-3), p, p, p, p, p, fl(3-3), fl(3-3), fl(3-3), fl(3-3), p, fl(3-3), fl(3-3)$

~~Female~~ (and chatter song in terr. #5 + ♂ #2 flew to ground in that direction 10-15 yds.). on ground x 135 sec. then flight song back to

pink #3. pink songs (921-25) were mostly from exposed pink  
- 36/min.

0929-0934.3 - 19 songs in 5 minutes + 20 sec.

$P, P, P, P, P, P$  (wacky song from ten. #1),  $P, P, P, P, P, P, f(3-3), f(3-3), P, P, f(3-3), P, f(3 \text{ to ground just N. of } 3)$

first series of perched songs given from just below top of Condalia (p. 3)  
moved up to top just before 1<sup>st</sup> flight song, landed on top then  
another flight song + landed just below top then one perched  
song + another - moved to top between, then flight song.

on ground for ~ 135 sec. gave part song from ground then flew up to perch #3. then flight song. then perch songs from interior of perch #3.

interior of perch #3.  
0938.5 - 0944. - 20 song in 5.5 minutes all from interior of #3.  
p = perch song

[illegible]





July 3

Welder Wildlife Foundation, San Patricio Co., Texas.

lit on top of #3 after flight song + then dropped just 5-8' to N  
to forage. on ground for 4 minutes then flight song starting  
from base of #3 leading in #3.

0949-0959. - 35 songs in 10 minutes. 3.5/min

fl(3-3), P, P, P, P, P, P, P, fl(3-3), P, P, P, P, P, P, (down into interior), P, P, P, P, P, P, P, P, P (out to exterior), fl(3-3) (was only song inters. #1), P (into interior), P, P, P, P, P, (moved up), P, P, P, (moved to top), fl(3- to ground by 2).  
on ground for 2 minutes then flight song into #3 where immediately moved into interior of bush. Shaded only partly.

1002-1012.5 - 35 songs in 10.5 minutes.

P, P, P, P, fl (3-3) lit on top, fl (3-3) lit interior, p, (dropped down), p, ~~moved~~  
~~back to near perch #2~~, p, p, p, p, p, p. (is now in shade + almost hidden  
 from view), p, p, p, p, p, p, (hopped up 2-4 inches), p, p, (still in shade), p, p, p, p,  
 p, p, p, p, p, p, fl (3 to ground SE of 3.) on ground 4' 40" after flight  
 song to #3 where lit in top.

10/8-1025- 21 songs in 7 minutes.

P, p (in shade in interior of #3), p, p, p, p, p, p, p, p, p, p, fl(3-3) lit below top,  
p, fl(3-3) (lit below top, p, p, p, out to N exterior where flight song (3-1)  
ending near base (1-2' up) of perch #1.

043 - ♂ #2 still silent possibly in shade of perch #1. heard ♂ #3  
sing once

1045.5 - song flight from W of #1 to #3 on ground for 20 '15"  
Silent for entire time. lit in #3 & moved to low interior

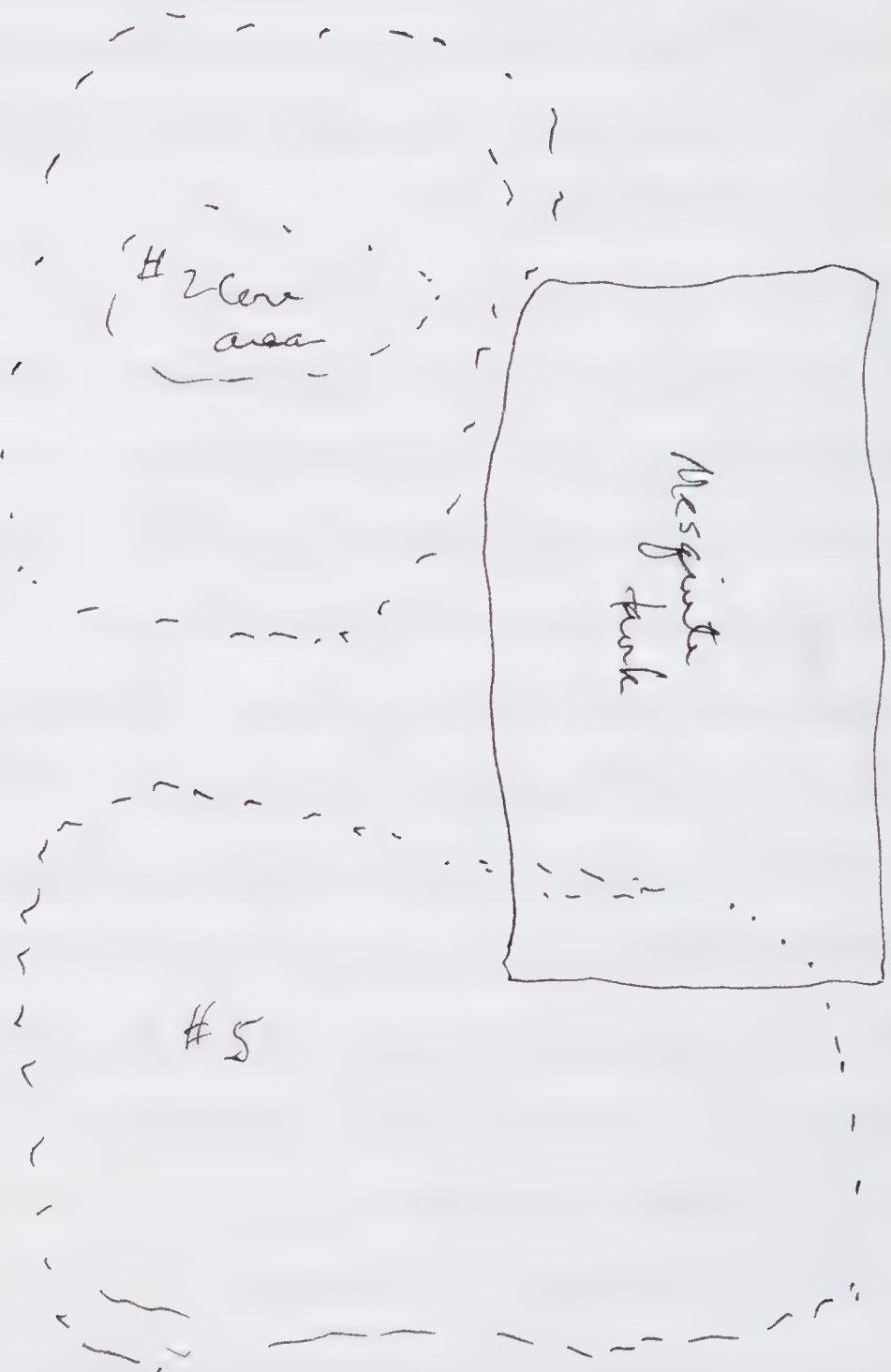
(1047-1108.5) 60 songs in 21.5 minutes.

p (in shade), p, dropped down slightly or <sup>flatt</sup> "as song after starting c series of chip notes soft, p, p, p, p, p, p, p, p,





Shrub + grass



Grass land  
with some  
mowing Mesquite  
+ *Opuntia* *leptocaulis*

LL Wolf  
1964

*Amphispiza cassinii*

July 3

Welder Wildlife Foundation, San Patricio Co., Texas

P, P, P, P, hopped to exterior sl(3-3) lit on exterior, fl(3-3), ♀(circum), P, P, dropped into interior, P, P, P, P, P, P, (moved around but still in interior + in shade) P, P, P, P, P, P, P, P.

1108.5 - still in shade in perch #3 but not singing.

1110 - one song then silent again.

left area.

July 4

Welder Wildlife Foundation, San Patricio Co., Texas

0550 - when I arrived on the area - mosquito tank - ♂ #2 was giving flight songs. ♂ #5 sang 5-6 times including some flight songs. then was quiet. heard warble song 50-75 yds out in grassy area - given as flight song. Unable to locate family group in terr. #5.

0640 - ♂ #2 actively singing. ♂ #5 into dead huisache (*Acacia*) when watched 3 individuals on July 3. Song at least three times + then nearly horizontal flight song + dropped into grass just at S edge of shrub + grass + grass interface. Flushed as I approached + flew to S 100 ± yds. giving two flight songs. Both times went into climb after nearly horizontal flight, sang. then began nearly horizontal flight again. last (2<sup>nd</sup>) song just before dropping into grass around running mesquite clump. The difference between the shrub + grass + grassy areas is primarily one of strata. 2 in shrub + grass + only one (12"-18" up) in grassy area, except for scattered 20-25' mesquites.

0645 - heard ♂ #5 singing - probably from ground or on low perch in running mesquite.





LLWOLF

Aimophila cassinii

July 4

Welder Wildlife Foundation, San Patricio Co., Texas

0715 - flushed bird of year from grass around dunes of Zanthoxylum + Celtis in terr. 45. Flew into nearby bare yterior branches of Celtis about 4' up. Then moved out to ends + was completely exposed - had out tail, streaks on chest and slightly brownish chest. Could not make out any juv. feathers <sup>for sure</sup> but those giving coverts appeared to be. Moved into interior of Celtis + then out to exterior of Zanthoxylum. Here sat quietly - a juv. Pyrochelidon flew in from 3-4' away + moved toward Cassin's. Cassin's hopped slightly interior + then back to exterior - larger bird did not seem any alarming. Sat with tail slightly above horizontal + flicking occasionally. Moved into interior of shrubs + disappeared. ♂ Pyrochelidon flew in to top of Celtis 30-40' to NE + chattered. Juv. Pyro joined it + calling became more intense. Sounds almost like chatter of Brown Towhees but much slower. Juv. Cassin appeared at top of his Celtis + flew over 50' or by 1-2' from juv. Pyrochelidon. Then to top interior of that Celtis after ad. + juv. Pyrochelidon left. Disappeared.

plants used for perches by ♂ #2:

- |                                       |  |
|---------------------------------------|--|
| 1. <u>Celtis</u>                      | 9. scattered small shrubs.   |
| 2. <u>Prosopis</u>                    | 10. dead <u>Prosopis</u> top.  |
| 3. - <u>Lycium</u>                    | 11. <u>Prosopis</u>  |
| 4. <u>Prosopis</u>                    | 12. <u>Prosopis</u>  |
| 5. <u>Celtis</u> + <u>Zanthoxylum</u> | 13. <u>Prosopis</u>  |
| 6. <u>Prosopis</u>                    | 14. <sup>dead</sup> <u>Celtis</u> + <u>Berberis bifoliata</u> + <u>Zanthoxylum</u> |
| 7. <u>Zanthoxylum</u>                 | 15. ?  |
| 8. scattered small shrubs             |  |





LL Wolf  
1964

*Amphispiza cassinii*

July 4

Welder Wildlife Foundation, San Patricio Co., Texas

0800 - 0808

72 <sup>♂ #5 singing</sup> fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3 to ground), fl(ground to 10) after 90+ sec on ground, fl(10-10), fl(10-10), <sup>♂ #5 singing</sup> fl(10-10), fl(10 to fl to 14) <sup>♂ #5 singing from dead thicket</sup> ♂ #2 flew to perch 14 when I stood up to check on ♂ #5.

Second song in flight ♂ #2 rose to 40-50 feet, p, fl(14-14), fl(14- ground), fl(ground to 14) (heard bird giving warble song to W 20-30 yds p, fl(14 to ground to W), probably where other bird sang before) (♂ #5 sang), ♂ #2 quiet after flying to West. (0808).

0809.5 - flight song back to #14, p, p, then fl(14 to SE) to edge of terr. #5, p, fl(Edge of terr. #5 to 3+), fl(3+ to 3) then only 3-4 feet + most of song given from perch, p, fl(3-3), p, fl(3-3), fl(3-3), p (in exposed position), fl(3-3), fl(3-3), fl(3 to <sup>ground</sup>) then quiet at 0814.5. flight ground to 3 after 1 min., fl(3-3), p, fl(3-3), fl(3-3) wind is 10-15 mph + very gusty, p, p, fl(3-3) takes off into wind then floats backwards + flutters into wind just before landing, p, fl(3-12), fl(12-4) (hear bird singing to NW), fl(4-4), fl(4-4), fl(4-4), fl(4 to ground near 8) (0819.4) on ground for 1'30" then fl(ground to 10), fl(10-10), fl(10-3) now partly cloudy (50%), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-3), fl(3-9 <sup>bush</sup> ground song 12). fl(song 12 to 9), fl(9-9), fl(9-9+), fl(9+ - 10), p, fl(10-10), fl(10 to fl to 14) (sang once just before landing), fl(14-14), p, fl(14-14) (lit on 60° branch 1st + then immediately down to horizontal branch, fl(14-14), p, fl(14-14), fl(14-14), fl(14-14), fl(14 to edge of terr #2)





LL Wolf  
1964

*Amorphila cassini*

July 4

Welder Wildlife Foundation, San Patricio Co., Texas

quiet for 1/2 min then fl (S of ter. #2 to 14), p, p, fl (14-14), p, fl (14-14),  
p, (hear bird singing to W), fl (14-14), p, fl (14-14), fl (14-14), fl (14  
to S edge of ter #2-15), p, (bird singing to W) (prob. ♂ #4), fl (15 to 3),  
fl (3-3), fl (3-3) (0836), fl (3-10+) (probably to ground), p, fl (ground  
to S of 12), fl (S of 12 to fl to 14), p, fl (14-14), fl (14-14), p, fl (14-14),  
fl (14-14), fl (14-14), fl (14-14), (0841), p, fl (14-14), p, fl (14-14) (♂ to W  
still singing), p, fl (14 to 14), p, fl (14-15) (0843), quiet for ~ 75 sec.  
then fl (15-14), p, fl (14 to S of 14), quiet for ~ 2 minutes  
then fl (ground to 14), fl (14-14), fl (14-14), p, p, fl (14-14) 0848  
0848 - fl (14-14), p, fl (14-14), fl (14-14), fl (14-14), fl (14-14), fl (14-14),  
p, fl (4 to ground to E) after one minute flew up in flight  
song & returned to about same spot for 1 1/2 min. then  
flight song to 14, p, fl (14-14), fl (14-14), p, fl (14-14), fl (14-14)  
bird singing to NW (#3), fl (14-14), p. 0855  
0855 - fl (14-14), fl (14-14), fl (14-14), p, fl (14-14), p, p, fl (14-14), p, fl (14-14),  
fl (14-14), p, p, p, fl (14-14) (♂ #4 sings), fl (14-14), p, fl (14-14), fl (14-14), fl (14 to  
ground NW of #3) 0901.

Left area as bird went down to ground S of #3. when  
I walked over to check on perch plants he flushed silently  
from ground & flew silently about 3' above ground 60-75 yds to  
S when lit in hackberry clump that has on other days  
been used by family group in ter. #5.





LLWOLF  
1964

*Amorphila cassini*

July 5 - Welder Wildlife Foundation, San Patricio Co., Texas

Habitat summary: Generally xeric areas with mesquite as *Celtis* as dominant woody species. Also *Zanthoxylum*, + a little blackbrush. Two areas where I watch sparrows differed in degree of closeness of woody vegetation. At mesquite tank woody plants covered >50% of ground + grass species including *Stipa leucotricha*, *Panicum filipes*, + *Aristida* sp. grew up to 12-18" in essentially continuous layer with few annuals. Grasses seemed to occur as paths + arenas in mesquite. Mesquite mostly clumps of running form, but some shrubs up to 8-10 feet tall.

Other area mostly nearly bare ground, noticeably overgrazed. Main taller woody species were mesquite (*Prosopis juliflora*) + hackberry (*Celtis pallida*). Also some *Zanthoxylum*. Woody forms up to 6-8' tall + much more scattered than at mesquite tank - primarily due to noticeable reduction in amount of running mesquite. Here only isolated clumps. Ground cover mostly herbs. Some areas are grassy, but grass is only up to 10-12" + mostly shorter. Area here is much more open.

Birds in terr. #5 at mesquite tank also used pasture area + scattered 20-25' mesquites. Other woody plants not above 18" level of grasses.

In both areas *Optunia lindheimeri* + *O. leptocaulis* were common. At mesquite tank *O. leptocaulis* very common in running mesquite ~~at~~ + around *Celtis* bushes.



Wolf, L. L.

1963-1964

Aimophila humeralis





Hi Wolf  
1963

*Aimophila humeralis*

August 4 9 mi. E. Guernavaca, Morelos, Cañon de Lobos.

At drier (east) end of canyon, this species was fairly common in dense shrubby 2<sup>nd</sup> growth on hillside.

Generally saw pairs together, but when squawking to attract them four plus would often be in same shrub. Heard both lone birds + apparently 2 birds chattering. Chattering is less harsh than A. ruficauda.

Birds taken (4) appeared in new body plumage + one was in light body molt. Ovary of bird with brood patch looked as if just beginning to enlarge. According to Rowley (Condor, 1962) the species should be nesting + some may have young.

August 6 11 mi. E. Guernavaca, Morelos, Mexico

Where road levels out after Cañon de Lobos A. ruficauda becomes more common. Stopped to collect ruficauda + found humeralis in the flat land. There were at least three birds - all seen were adults. Humeralis stuck to thicker vegetation generally than did ruficauda but there was some interchange. Song heard of humeralis is one or two two-parted introductory notes followed by a dry trill.

August 7 9 mi. SE. Texcoco de Matamoros, Puebla, Mexico

#2192 ventral + back molt #1 rectrices sheathed at base.





LLWOLF  
1963

*Ammodramus humeralis*

August 7 7 mi. SE. Azucar de Matamoros, Puebla, Mexico

Only 2 pair found in this thorn forest locality. Pair I saw was at crest of hill in closed canopy vegetation. Her herb layer + small shrubs were probably as dense as they were anywhere on the hills. Also found 2 spaced pairs of *A. mysticallis* in same area.

7 MI. S. OF PIAXTLA, PUEBLA, MEXICO J.P. Hubbard

A pair and one juvenile observed foraging in rank herbaceous growth bordering a field in a stream bottom. My attention was attracted to the group by the chipping of the adults. The presumed ♂ gave a *Passerina*-like single chip (ie, loud & metallic) and the presumed ♀ softer, lower-pitched doubled or trebled chips. The juvenile was not observed to call.

Numerous dead limbs protruding above vegetation (which was about 1 foot high) afforded places for perching and for entering and leaving the herbaceous layer. Progress over the limbs was made by agile hops and once the ♀, while perching on a dead twig, ~~leaned~~ reached upward and removed an object from the underside of a





LLW01F  
1963

*Amphispiza bilineata*

August 7 7 mi. S. Raxtla, Puebla, Mexico

leaf of an emergent plant. What little could be seen of the bird down in the growth indicated feeding was done both on the ground. Twice plants shook vigorously in the area of a foraging bird. A bird after emerging from the herbaceous layer without exception wiped the bill numerous times. Forays lasted different times for each bird during the 15 minutes of observation. The ♂ fed on the ground sporadically, perhaps 4 or 5 times for 1-2 minutes each. The ♀ spent about the same length of time foraging on the ground but did it numerous times. The adults, when not foraging, preened or sat and chirped. The ♂ made half-hearted attempts to sing (introductory note only). The juvenile emerged from the vegetation infrequently, perhaps on 4-5 times during the whole period.





Lewis

(1963)

*Amorphila humeralis*

August 7

7 mi. S. Piaxtla, Puebla, Mexico

2202 - juv. just finishing p.f. molt. Light back molt  
Also tertials. wing coverts old. Stomach contained  
green caterpillar & other insect fragments.

August 8

7 mi. S. Piaxtla, Puebla, Mexico.

found pair in small trees & shrubs between grazed, grassy  
area & cultivated field. - on hillside. Both into a broad-leafed  
7 foot tree. One giving soft tzip. Both hopped on branches  
in manner of foraging vireo - hop, rear about, hop. One disappeared  
presumably to ground while other perched in top of 4 foot  
legume still giving the soft tzip. given ~ once every 2 or 3  
seconds. At 0659 flew directly down to ground ~ 5 feet from  
base of legume.

Watched one fly down to few dead sticks lying haphazardly  
on ground. Hopped around on sticks & finally walked down to  
pick at something - apparently on stick then into 4-6 inch grass  
with scattered weeds where lost.

Pair on brush pile 1 foot above ground. 2 birds about  
6-8 inches apart giving chatter. Both were wing flicking but  
one more violently than other. More violent <sup>one</sup> was (↓↘) flicking  
wing on side forward other bird much more than wing  
away from other. Saw no real difference between 2 wings on  
less violently displaying bird.





LL Wolf  
1963

*Aimophila humeralis*

August 8 7 mi. S. Piaxtla, Puebla, Mexico.

Foraging bird flies from perch 3-4 feet up in legume down to small shrub on dead branches. Hops around there + down to ground. Saw foraging both in spots where grass + weeds 6-15 inches tall + thick so bird hidden + under legume canopy where bird could hop on bare ground almost without hitting any herbs. Here hopped along ground occasionally picking at ground. Once reached up + pecked at plant leaf - probably for insect. Another actually fluttered up about 4 inches + pecked at a weed leaf. Then appeared to go to bare ground to eat catch.

After foraging for 5 minutes birds flies up to legume branch where much bill wiping + once preening.

While I tried to watch one bird foraging other bird of pair sat in exposed perch 5-8 feet above ground facing me. Gave continuous, ~ 3 second spaced, 4 zip notes.

Both birds flew from elevated perches to a 20°  $\angle$  from horizontal limb in legume. One landed slightly after other. Both turned 180° + began chattering. Wing flicking by both. One which apparently gave most of chatter, prob. ♂, + which chattered after other quit also wing flicked <sup>more</sup> ~~the most~~. Again birds facing almost parallel  $\downarrow \downarrow$  + bird giving more chatter was flicking inside wing harder than outside.

So far have only seen two birds together.

0755- Hear bird in distance giving introductory note to song. Repeated every 4-6 seconds. Have not heard full song for





LLWolf  
1963

*Aimophila humeralis*

August 8

7 mi. S. Paxtla, Puebla, Mexico  
at least 1/2 hour.

Followed this pair across open area to trees + shrubs along stream valley after seeing juvenal plumaged bird ~~being fed by~~ begging from adult. ♂ sat up in exposed perch giving occasional tzip note while ♀ foraged on ground. Foraged across open area where grass - 1/2 - 1 1/2 inches tall, then to edge of tall grass + small shrubs. Sometimes fluttered up a little to hop across tall grass. Saw her fly up + snatch at white moth she had flushed from grass. Missed + flew after moth finally caught it in grass then disappeared into or behind some thick ground vegetation. Began to hear softer + higher tzip-like notes from near ground in bushes near where ♀ had been foraging. As I approached young flushed across stream bed + into thick tangle of shrubs + fallen tree limbs. Collected both parents + flushed young into exposed perch on legume branch where collected it. This was first time except when first seen that young was not hidden in dense vegetation.

When first seen I had been watching ♀ forage + lost both birds as they went uphill. When I followed they both flushed into exposed perches near top of 15 foot tree. Both then began preening vigorously. This lasted 5+ minutes until first heard call note of young. It then hopped into view about 12 inches above ground +





## *Aimophila harrisi*

began wing quivering slightly with bill partly open. One adult immediately flew down & hopped over to side of young. I then left to get shotgun.

2203 - brood patch

#2204 - back molt #1 primary  $\frac{3}{4}$  grown rest of primaries old  
#1 rectrices  $\frac{5}{8}$  grown rest old. postscript.

2205 - refeathering brood patch. light back, rump & scapular molt. postscript

2206 - back & ventral molt light.

2207 - extensive brood patch - ~~body~~

#2210 - 2212 - ♂, ♀, juv. that I followed for hour or more on morning of Aug. 8 - see species accounts.

postscript 2211 - refeathering brood patch. pin feathers on throat. generally body molt - heavy on back & scap. #1 rectrices missing.

2212 - cl. prot. sl. cul. body plumage fresh.

2217 & 2218 - collected while nest chattering.

2217 - light back molt.

2218 - brood patch - light back molt.

2219 - upper back new - mid-back molting. - singing when collected at 1145. postscript

Birds today seemed to be in pairs of adults. Possibly after young leave nest (or after nesting starts) the adults do not associate in groups as before. If this is true it may account for myioides being found





LLW81F  
1963

*Aimophila humeralis*

August 8 7 mi. S. Piaxtla, Puebla

in pairs, altho we have no evidence to date that they occur in groups during the breeding season.

August 22 9 mi. E. Cuernavaca, Morelos, Mexico

postmpt. 2392 - some 2<sup>nd</sup> molting. Scattered body molt. <sup>postmpt.</sup> refeathering brood patch.

2393 - worn, brood patch.

2394 - no molt.

2395 - cl. prot. cul. no molt

2396 - no molt

2397 - scattered body molt. ~~#43~~ #4-6 rectrices look new.

2398 - brood patch, scattered body molt. white shelled egg in shell gland.

postmpt. 2399 - refeathering brood patch, scattered body molt. p<sub>2</sub>

2400 - cl. prot. cul. scattered body molt.

2401 - brood patch, scattered body molt.

found birds in pairs or if in groups of 3 I think one of birds was a young. Saw one young not quite thru postjuv. molt. John collected a juvenile. Birds were still singing at 0830 + heard dust chattering from almost every pair.

Heard sputtering call of humeralis from several birds as I approached to collect. It is a series of rapidly repeated chipping-type notes which may be 2. parts to give sputtering effect.





LLW014  
1964

Amorphila humeralis

July 14 Canyon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

0800 - found two birds on Acacia - dominated hillside. Most of trees < 15'; but these birds were in 20' tree - with several other trees of about same size formed nearly closed canopy in area otherwise very open. Seemed to be foraging up to 10' above ground or sat on dead perch. Call tzet, tzet, or soft trill, or single note.

0808 - one bird flew up to tip of branch among leaves & pecked & pulled in foliage. Changed positions slightly & continued to pull & pull at foliage. Came up with a larva - flew down to bare branch where ate - did not seem to pound on limb - but probably only flew down to achieve steadier perch. Then back up to canopy.

0810 - other bird hopping along bare vine in subcanopy. pecked at insect on branch & watched it fall to ground. Then sat preening & calling - tzet + rapid, soft, dry, trills.

0840 - Back to this pair after searching for others. Flew along hillside & one lit in Acacia just in front of me. Other arose hidden. Gave soft trill + short portion of chatter. Then flew 20' further & began chatter. Noticed dog coming up path. As dog turned back both birds flew over to follow for 10-15' & one was chattering.

Other flew up with larva in bill, lit on bare limb & manipulated larva for few ~~minutes~~ <sup>times</sup> then flicked it against limb - ran it thru bill once & swallowed it end first.

I walked in to where birds were & one went to E & other to N or 20'. Began soft trill + short chatter. Seemed to answer with chatter if other chattered. Finally came together & both





LL Wolf  
1964

*Aimophila humeralis*

July 14

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

moved off to W. where here tzeek, + soft trill notes.

0940 - found group of three birds foraging together in vines of subcanopy + out to tips of branches of a sumac-like shrub (10') (Stems much more woody + trunks heavier). Two flew over to trees + shrubs (in group) 20 ± yds. to W. foraged here mostly in subcanopy from 6 - 12' up. Then both back to sumac. One almost to ground worked up one trunk in hops to canopy. Out to end of branch where pecked hard at leaf. Most of foraging done by flying to perch, peering about, + moving on or else hopping from perch to perch in that vicinity.

All 3 birds appeared to be in adult plumage. ~~Almost~~ Regular chipping from foraging bird(s), but impossible to tell which one(s).

1100 - found group of 2 birds moving thru canopy zone on hillside dominated by 15-20 foot trees which form 50-100% canopy. Dense herb layer + > 50% shrub cover. Giving chip chip call-loud as one flies to next tree + followed by 2<sup>nd</sup>. One dropped down to 2 ± feet above ground in shrub layer + moved thru at this height until out of sight.

July 15

Cañon de Lobos, 9 mi E Cuernavaca, Morelos, Mexico.

0600 - as we arrived could hear reunion chatter given from many parts of hillside at dry end of canyon. Seemed to be mostly limited to areas which contained trees up to 20-25' tall. In some places these formed almost closed canopy. Two groups I saw were of 2 birds each.





LLWorf  
1964

*Amphispiza humeralis*

July 15 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

0630 - found 2 birds foraging in shrubs on mesquite-dominated hillside. No trees in area + tallest shrubs are 10+ feet. More like habitat of *A. ruficauda* of which there are at least two pairs nearby - one to N + one to S. Along hillside.

Pair foraging in various species of shrub - do not seem to skip any or pass them over. Mostly foraging in interior of shrubs about  $\frac{2}{3}$  way up. One dropped to ground, picked up a dead leaf + flew to rock 3 feet away. Put leaf down + picked something off. Then flew to next mesquite.

0648 - one flew to 'O' tree at edge of cornfield. Lit on bare limb just inside canopy. Picked up larva + shook head with larva in bill. Not sure if hitting larva against branch or no. Swallowed + bill-wiped. Hopped to next higher branch - ( $\frac{1}{2}$ " dia, big) + bill-wiped. Then sat chipping softly + preening. Not sure where other bird is. Tree leaves are nearly all full of holes from larvae.

0656 - bird drops down toward ground + then works back up into tree. While goes out to where branch  $< \frac{1}{4}$ " dia. usually is on bare portion. Branches utilized are horizontal or nearly so. Worked from outside of tree to inside + to outside W. Then to center (all ~ 6-7' up) then dropped down 2-3 feet and worked toward outside S. - chipping softly.

0700 - by this time reunion chatter is reduced in frequency from 0600. Only infrequently does isolated pair chatter. Earlier it sounded as if chatter by one pair stimulated other pairs.





LL Wolf  
1964

*Amorphila humeralis*

July 15

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

Sounded as if maybe has function of advertising or territorial announcement.

Have lost sight of bird watching.

0714 - located again in same tree - was on bare horizontal limb 7' up (1" dia) sitting quietly with occas. soft chips. 2<sup>nd</sup> bird near ground on bare limb at 20' L. Worked up limb. 1<sup>st</sup> bird hopped down slightly + preened then back up.

0718 - moved toward center of tree where joined by 2<sup>nd</sup>. 1<sup>st</sup> sat quietly while 2<sup>nd</sup> foraged in trees down into shrubs below.

Mostly again on bare limbs but air foliage seemed to move from shrub to shrub with no apparent plants missed. Once moved out to foliated tip of branch, - did not see any captures in 20+ sec. As 2<sup>nd</sup> disappeared 1<sup>st</sup> hopped down one limb + preened. Began chipping softly then dropped down to shrub + began foraging.

0733 - one up into bare shrub - on branch 6' up near tip. sat quietly until 0736 when both birds flew, nearly together, to same tree. One <sup>1<sup>st</sup></sup> bill-wiped then sat quietly on horizontal bare branch 8' up. Other hopped to bare part of branch + pecked into foliage - then to another bare branch where bill-wiped. Then 1<sup>st</sup> flew off to ~~the~~ + lit on bare branch of shrub. Turned 180° + then disappeared. 2<sup>nd</sup> moved to N side of tree + followed.

0740 - one flew out to E - uphill 30 yds ± + lit on bare portion of horizontal branch 2" from main stem + 2 1/2' up. Sat quietly. After ~~(2)~~ followed uphill + lit in similar shrub 15' downhill.





LL Wolf  
1964

*Amphispiza humeralis*

July 15 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

0845. other bird flew uphill to top. 1st + foraged in vine tangle. then both flew to small shrub at base of 3-4' <sup>Acacia</sup> mesquite. one foraged out main stem (10' C) + into pointed portion. Other dropped into tangle at base. Both then flew 10' downhill in shrubs + <sup>Acacia</sup> mesquite. one hidden from view + other moved up + sat quietly in open. Then both into mesquite when foraging. have not seen any attempts at capture for 15+ minutes. one or both chirping softly. keep returning to interior of same <sup>Acacia</sup> ~ 3' tall. seems to be same bird. other sits on various perches around Acacia + on one branch extending horizontally 3-4 feet.

0803- (ex active bird, <sup>♂?</sup>) begins short chatter + both become more active. ♀(?) back + forth to interior of Acacia while ♂(?) moves from next shrub to N to horizontal branch. Only 3-4 short chatter by one bird then soft chirping.

0809- both slightly uphill to other Acacia where ♂(?) gave single short chatter then both back downhill + one into interior of Acacia.

0811- both downhill 20± feet where chirped excitedly but softly. I moved away from my position 20' to E of Acacia to 10± yds. to S. Both birds returned one to nearby shrub + one to Acacia. worked around interior + then to area where some grasses strewn about branches. Made settling movements + assumed horizontal position as if sitting on nest. Then got up + moved slightly. Settled back down. ♂ (white in pectoral band) flew to another nearby shrub where continued to chirp. Then became silent. ♀ finally onto nest at 0818.





LL Wolf  
1964

*Aimophila humeralis*

July 15 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

0828 - ♂ foraging in shrubs 15 ± yds. to NE of nest. Silent.

0834 - ♂ now downhill from nest. flew up onto bare portion of shrub 8 ± feet up where bill-wiped then sat quietly.

0845 - reunion chatter from downhill. response from less far downhill then several more chatters for downhill.

Probably another pair + answer possibly by ♂ of nest. Have not seen him 0835 when dropped down from exposed elevated perch in shrub.

0915 - checked nest + found adult gone + 2 eggs in nest. Apparently ♀ had gone on at 0815 to lay egg. Had noted earlier in morning that she had a swollen abdomen as if carrying an egg ready to lay.

July 16 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

checked nest at 0610. 2 eggs. both adults nearby + began chirping when I approached. First call was short chatter. 3 eggs at 1145. ♀ sat on nest.

July 17 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

When arrived at canyon at 0535 sky was just tinged with orange in east. ♂♂ singing their ———— song. Did not hear first chatter until 0543. By 0545 Most <sup>birds</sup> ~~pairs~~ were giving chatter, but did hear a few ♂♂ still singing.

0730 - adult incubating on nest.

0835 - found pair of adults. first heard sharp chirp notes + then both flew up onto bare portions of limbs + gave chatter call.





LHW/8  
1964

*Amphispiza humeralis*

July 17

Cañon de Zozac, 9 mi. E. Cuernavaca, Morelos, Mexico

This in area where trees + shrubs form almost (in places completely) completely closed canopy. One dropped down into subcanopy of tree 40 feet to N. other followed. ♂ then worked rapidly to top of tree when sang — ..... once. ♀ (other bird) gave short chatter (pit-za pit-za). ♂ picked up larva after finishing singing + ate it while ♀ worked to top of same tree. ♂ then dropped down + out of sight ♀ over to next tree when worked in canopy — mostly on bare portions of branches + prying into foliage. (8-10' up). Almost out of tip of some branches.

0900 - 0930. watched pair foraging in same closed canopy area as at 0835. Probably the same pair although had moved to S along hillside. Foraged thru all layers from 1-2 feet above ground to 10+ feet up. Mostly on bare portions of branches + pecking at foliage. One clung to a vertical vine — antbird fashion — + peck at undersides of 2 leaves then dropped back to horizontal branch. One caught two caterpillars in succession — one  $\frac{1}{2}$ " ± + the other 1" ±. Smaller one eaten right after catching + with no preparation. For larger bird dropped down to bare limb (1" ± dia) (not apparently different from branch from which caught larva). Then flicked head from side to side with larva hanging from bill. Seemed to hit larva against limb, but not sure. Then ran larva thru bill once + swallowed.





CL Wolf  
1964.

*Amphispiza bilineata*

July 17 Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico 4800± ft.

Same bird also caught + ate two small insects + then he reached back + pecked off wings after moving by them. Bird would forage for 5-10 minutes + then sit quietly for 2+ minutes. Quiet times for two birds did not coincide.

Calls during foraging were soft + harsh chip giving almost regularly while foraging. Also pit-za + pit calls when I came in or they came close (20-30') to me. Pit-za could be single or repeated up to 4 times. Also single pit. Another call giving as birds go back to foraging after pit-za calls is chip-ip-ip-ip sounds like chip with rapid, short trill. All these calls are given by both birds.

At 0917 heard 3<sup>rd</sup> bird chipping to a along hill but in same thicket. Soon flew into area where pair foraging. Immediately chased to S by one bird which had previously worked to top of 15' tree. Chaser immediately returned to thicket + commenced foraging. Other bird did not join chaser but continued preening on bare limb ~ 3' above ground. 1000 - same pair at SW corner of thicket. Heard another bird pit-za downhill to SW. Then started chatter. pair in thicket then chattered followed 10-15 sec. later by chatter from pair downhill.





LLWOLF  
1964

*Amphispiza humeralis*

July 17 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

eggs 3 -  $22.1 \times 15.8$   
 $22.0 \times 15.8$   
 $22.8 \times 15.6$  } measured after flushing adult. did not  
leave until chews 3<sup>rd</sup> feet from nest.

July 18 Canon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

flushed 2 from on or near ground 10-15 yds to N of  
where flushed 2 *A. ruficauda*. One bird then dropped  
back to ground for 10-15 sec. while other sat in <sup>shrub</sup> ~~tree~~. Then  
both moved downhill to taller, denser vegetation. Were  
foraging on open ~~area~~ <sup>Acacia</sup> dominated hillside when first seen.  
With this pair + nesting pair the *A. ruficauda* have humeralis  
to W. + S. At one time 2 species were 10 $\pm$  yds apart + saw  
no interaction.

0910 - another area to S. Bird on hillside sang ~~~~~  
once. Bird just below road (50-75 yds from 1<sup>st</sup> bird)  
immediately gave two pit-za notes + flew off to E across road  
+ lit in subcanopy of tree just across road. Then lost from view.

1000 - uphill 50-75 yds. to pair watched yesterday (#2). Heard  
pit-za notes as cow walked thru thicket. Then more as I  
approached. found single birds foraging ~ 8 feet up along  
horizontal limb. Dropped down to exposed perch ~ 3 feet up +  
began preening. Also occasional pit-za notes. Heard pit-za from  
SE slightly uphill but in same thicket. After watching one  
bird preen for 5<sup>th</sup> minutes I walked over to where heard other  
bird. Saw bird pit-zaing in Acacia thicket. Then a 2<sup>nd</sup>





LL Wolf  
1964

*Amophila humeralis*

July 18

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

bird flew in just downhill from me (~20 feet from 1<sup>st</sup> bird.)  
Lost track of exact location of both birds until heard pitza +  
then chatter direct slightly uphill. Birds facing at 90° to  
each other and one ~6" higher. Were 12 to 15 inches apart.  
both birds apparently contributing to chatter.

Bird facing to west flicked right wing during most of chatter  
but twice stopped right + flicked left for 1-2 sec. Bird  
facing S. did not flick wings as much but more of right than  
left. Then lost track of both birds.

1020 - bird flew into tree (3' up) about 10' uphill from me.  
foraged in leaves near trunk for 5± sec. then had 1"± caterpillar  
in bill. joined by a 2<sup>nd</sup> bird + both flew off three thickets to N.  
impossible to follow them closely

Moved in that direction + found at least two birds giving pit-za  
call. flushed one from vine tangle 3 feet up. Other in tree on  
dead branches 8-10 feet up. both fly into canopy of densely foliated  
tree where gave pit-za calls.

1045 - bird foraging ~3 feet above ground, working primarily  
along bare horizontal branches. moves into foliated area +  
peers around. Moves toward leaf before pecking. Works over to  
dead horizontal branch carrying a 1"± larva. Sits with larva  
hanging from right side of bill. Then swallows + bill wipes.  
Pecks at branch + bill wipes again. Sits nearly motionless on  
branch giving chip itip, itip irregularly.





LL Wolf  
1964

*Amphispiza bilineata*

July 18

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

1050 - hear another chip & pip call & pitza from farther to S. Bird gives pitza + changes pitch when continues chip + chip & pip call. 2<sup>nd</sup> bird becomes silent.

July 19

Cañon de Lobos, 9 mi. E. Cuernavaca, ~~Cañon de Lobos~~, Morelos, Mexico

0613 - located pair #1 near road. one flushed from near ground into small shrub. Other nearby. Area is Acacia + 6-8 foot tree dominated. Trees are 2<sup>nd</sup> growth from recent cutting. Gines nearly closed level at ~ 5 feet.

Watched birds foraging from ground up to about 7 feet. Most of 4<sup>+</sup> minutes watched were at less than 4 feet. Dropped down to ground for only short intervals + then back up into lower branches. Low foraging height due to height of shrubs. 0626 - chatter burst - began with several pitza notes that sounded as if spluttering.

1020 - hear sharp chip from area of pair #1. finally locate bird foraging in canopy 10-15 feet above ground. using bare perches pecking into leaves. moves by hops from perch to perch. Also lit in leaf clusters but still lands on small bare portions of twigs.

July 21

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

Dick reported that while he was squeaking for birds two pair came together. When he ceased squeaking all four moved off in the same direction. He wasn't sure if they remained together.





LLWOLF  
1969

*Amphiphila humeralis*

July 23 Cañon de Lobos, Pmi. E. Cuernavaca, Morelos, Mexico 7800±ft.

~~July 23~~ 0613 - on east-facing slope. (at least three pairs). one well up hill chatters followed by several pitza calls + then chatter of pair at bottom of three (pair #1). Then a third pair chatters 2<sup>nd</sup> time. later. pair flies up into 8' tree (~6' feet up) + chatters - starts with pitza. one bird stationary + wing flicking (right) other below 1<sup>st</sup> + moves up during performance. then both fly off to S where chatter again.

0625 - 0630 - pair #3 flew to NE to wooded gully. lit near top of 25 foot tree + chattered. Two facing same direction (SE) + little wing flicking. One then flew off farther to NE while other remained on perch. 1± minute later bird back to perch + both flew off to SE 75± yds. flying low just above tops of vegetation + lit in 5 foot shrub. Did not chatter. One dropped toward ground. 1± minute later one in shrub flew 10± yds to S. followed closely by 2<sup>nd</sup>. perched on dead stem (nearly vertical) - one perched at top + other 1± foot below. both wing flicking (one left - one right). one then dropped toward ground while other remained on top of perch. finally (3± min) other flew toward ground 10± yds. S. 0642 - quiet until now. unidentified finch - dull brown - singing in 15 foot, partly defoliated tree when a humeralis flies up + chases it. joined by another humeralis + pitza calls. then move out to 1/2± way from trunk (6-8 feet up) + begin chatter. Continue moving during chatter so end while almost at tip of branch. Both wing flicking rapidly - one left - one right. One on branch 1± foot above other. Two facing at 90°.





LHW:lf  
1967

*Amphiphila humeralis*

July 23

Canon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

Then pair #3 flies uphill 20-30 yds. + chatter followed by chatter from pair #1 which is just below tree where pair #3 chattered time previously (0713).

0655 - 2 birds flew downhill to tree of (0713). one following other by 6-8 inches - flutter together around interior of tree before one lands 2-3 feet above other. upper one gives solo chatter *u-u-u* etc. then flies uphill 20± yds. followed by 2-3 yds by other. 1<sup>st</sup> then to top of nearby 20± foot tree where flicking tail. Flies to NW ~~to~~ 40± yds. to land in another 20± foot tree near top. 2<sup>nd</sup> bird already there & chatter begins immediately. Both initially facing SW + flicking right wings vigorously. Near end of performance outer bird - one that flew in - turns to face E. Continues flicking right wing. During this chatter another pair - probably including one earlier chased - flies to top of 20± foot tree just vacated + chatter. Both wing flicking. Start facing to NE, but turn to face NW so at least one of each chattering pair is facing toward other pair. Then quiet + both pairs leave trees.

0709 - Bird to near top of same 20± foot tree downhill - + singing wheet, wheet. pause wheet, wheet. flew off uphill + heard pitza well uphill (50-75 yds) pitza approached when first bird landed + chatter, initiated by one pitza. Then several pitza notes + one pair chattered to S of where just heard + another pair followed (introduced by one pitza) with chatter just to N. then quiet.

0724 - hear chatter from tree #1. then after 30± sec. delay see bird fly into thick cover to NW + chatter. One of birds exposed on 60° stem - bare -



↑ 2

main stream

wooded gully

pin #3



Lythraceae  
(Heimia?)

uphill

LH WOH  
1964

*Aimophila humeralis*

July 23

Canon de los Bos, 9 mi. E. Cuernavaca, Morelos, Mexico

+ flicking right wing. Then hear <sup>call note</sup> ~~sharp~~ from near top of tree #1 + two birds fly up there (chattering pair) + chatter - can only see one bird. This one wing flicking vigorously - most right, but occasionally the left + for several seconds had both going slightly. Then two birds flew off to NW into dense shrubs + chatter followed by chatter from area #2. Then third bird flew down to where two (area #1) had earlier gone.

0734 - single pitza followed by chatter in area #1.

0742 - sharp chips from area #2 - followed by chatter from area #1.

0750 - pitza notes from near boundary of area #2 + #3. followed + coincident with pitza notes from area #2. then chatter from tree #1. bird then flies to N to tree #3 + another up into shrub 10-15 yds. to E. solo chatter + splutter followed by pitza notes from #3 + chatter from #1. then #3 pair to tree #2 where chatter + pair #2 also chatters. one of pair to then to S. other up into tree.

0755 - one of pair #3 from tree #2 uphill to W where hear pitza + then chatter.

0757 - several chatters from area #3 + ~~several~~ <sup>one from</sup> area #2 both well uphill from tree #2 + #3.

0805 - watched bird in partly defoliated tree. worked near tips of branches + from just below canopy. caught 2 Lepid. larvae. then flew over to wooded gully. 0709 - heard pitz notes + bird flew up into upper branches of tree #2 when joined by another bird + chatter.





LL Wolf  
1964

*Aimophila humeralis*

July 23

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

Then one flew down toward ground while other remained perched quietly at top. 0812 - bird from below flew up to branch about  $\frac{1}{2}$  way up tree #2 + perched bird flew down then chatter with wing flicking (mostly right). Then both left tree.

0825 - Chatter from area #1.

0834 - heard pitza series from area of tree #1 - then solo chatter + short burst then more pit-za notes.

0840 - pair #3 flew up from on or near ground to lower dead branch (8-10' up) of tree #2. Chattered - both facing NE one wing flicking - left vigorously. Then one flew off to W - downhill - + heard chatter. This one then back to shrub below tree #2. one in tree #2 sitting quietly on dead limb (nearly horizontal + 2 feet up) then moves to canopy on N side where forages. Leaves all nearly completely eaten + many brown + wilted. moves thru canopy generally on branches  $\frac{1}{2}$ " dia, but ~~will~~ does go to outer tips. Generally sits preening about + then moves rapidly - 6-12" + pecks at leaf. Sometimes just reaches up + pecks. Once flew up + hovered while pecking at leaf then drop back to same perch. Also pecks as drops down to lower branches. Caught several unidentified insects + at least one  $\frac{1}{2}$ "<sup>+</sup> Lepid larva. Smaller insects manipulated + bitten at tip of bill before swallowing. Lepid. larva flick vigorously to side several times before eating.

Moved out to dead tip of branch + sat quietly preening abdomen. Then gave several pitz notes before flying uphill to wooded gully. Then gave pitza series from 10+ feet up, but 5 feet below canopy + then quiet. Other member of pair #3 up into lower branches of tree #2. when chirped.





LL Wolf  
1964

16

*Amophila humeralis*

July 23

Cañon de Lotos, Pmi. E. Cuernavaca, Morelos, Mexico

Breast + throat wet + matted (grass wet). Flew over to top of bush in which 1<sup>st</sup> bird sitting. As pitza + chatter starts 1<sup>st</sup> works rapidly to top + both chatter. One rapidly flicking left wing - other alternates wings, but mostly left. Then both fly downhill + slightly to W where chatter several times from slightly different locations. 0900 - back to wooded gully where chatter from low down line 8 $\pm$  feet up - one flicking right wing - other? Then ~~to~~ one to S edge of gully vegetation into partly defoliated tree where sat for 15 $\pm$  sec + then picked up insect. Worked it in bill for 10 $\pm$  sec before finally swallowing. joined by 2<sup>nd</sup> bird + both flew to tree #2. moved to top <sup>E side</sup> where chattered followed by chatter from area #1. then both began foraging in canopy. one then dropped almost straight down to ground + other foraged to W side then sat quietly. Gave several pitza notes + flew off to W where gave sharp series of pitz + pitza.

0910 - heard chatter from W (uphill) of area #3 - not sure of participants. then series of pitza notes by at least two birds this 80 $\pm$  yards to W of tree #2.

0912 - pitza moves to S + chatter from area #2 - pitza still occurring during chatter.

0913 - two birds from area #2 move downhill + pitza loudly. bird from uphill in area #3 flies down + loud pitzas by at least two birds then chatter. which is joined from area of tree #1 by pair #1. apparently then dispute involving pair #2 + ♂ of pair #3. then quiet.





CL Wolf  
1964

17

*Amphiphila humeralis*

July 23

Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico

0915 - Chatter introduced by 2 pitz-a notes from area #1.

0921 - Chatter introduced by 2 pitz-a notes from area #2. sounded like pitza notes began further uphill than chatter location.

0924 - Near series of pitza notes that are given by at least two birds. Then chatter that sounds like two birds singing same part (see below). Then several pitza notes followed by normal chatter.

0926 - 2 chatters from area of tree #3. 1<sup>st</sup> the two birds did not synchronize exactly & one still calling hill notes ..... while bird giving ~~when~~ peet za peet za stopped. so both participate & give different parts.

0929 - bird song L ..... song followed by pitza notes from area #3. ~~area~~ pair #2 chattered.

0932 - bird in area #3 - well uphill calling pitz - single notes ~~given~~ at intervals of about 3 secs., but becomes irregular.

0934 - pitza + chatter (short) from area #2. This followed by longer chatter from area #2. Then quiet.

0935 - Two pitz-a notes introduce long chatter from near tree #3.

Then pitz-a note + start of chatter followed by more pitz-a notes from area #1

0936 - 2 birds fly out of tree #3 + pitz-a sharply. Then chatter by 2 pairs simultaneously - one to S of tree #3 + one to W. chatter not really normal & hear several times / ..... call. This is only time I have heard this call. Then chatter & quiet.





LL Wolf  
1964

*Amphispiza humeralis*

July 23

Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico

0955 - walking thru under brush uphill 30+ yds from tree #3.

2 began pitz-a notes loudly & rapidly. in low brush 3-4 feet above ground. Both moved thru closed canopy shrub cover to S. & then uphill so out in open at edge of "path". I came in on "Pitzain" loudly. one flew to N & then joined a third bird sitting quietly about 3 feet up near stem of shrub just N of me (10+ feet) at edge of path. This first bird back to S to join other. Both sat "pitzain" sharply & loudly about 4-5 feet up in shrub.

Both 15-20 feet away & exposed. Third bird flew. Then heard loud L..... song from tree just uphill from pair. After 2<sup>nd</sup> minutes, <sup>one of</sup> pair moved into bush just below tree & was joined by bird from tree. Calls are quieter & less frequent now (100%). At least two birds move to NW (uphill) in mid level of closed canopy 6-8 foot shrubs. Still pitzain but much less frequently.

Heard (several times) soft chirp notes from where first saw adults. Possibly have young out of nest.

During early part of <sup>disturbance</sup> ~~chatter~~ (0950±) heard several chatter from area #3.

July 24

Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico 4800± ft.

0610 - heard several pitz-a notes below + to S of tree #2 then pair #3 flew up into mid height of tree #2 & chattered. forelegs up toward top then one bird flew off to S & heard chatter from pair #1.

0613 - bird back into tree #2 & chatter - both facing S & one on left flicking right wing. Then several chatter from pairs 1 & 2.





LL Wolf  
1964

*Amphispiza bilineata*

July 24 Cañon de Lobos, 9 mi E. Cuernavaca, Morelos, Mexico 7800± feet

0620 - one of pair 2 begins singing - pitza notes from near tree #3 + pair #3 chatter in tree #2.

0625 - pair #2 chatters from above tree #3 + pair #3 follows with a chatter then quiet.

0629 - f3et (loud) from tree #2 - one bird still in tree then flies off to NE downhill 30± yds. to wooded gully.

0635 - ♂ #1 singing from top of 25 foot (partly defoliated) tree. One bare branch extending beyond canopy. Then chatter + 2<sup>nd</sup> bird begins moving up to top of tree from 10 feet lower as pair #2 chatters.

0655 - pair #3 up into tree #2 where chattered - followed immediately by chatter from pair #2. Both members of pair #3 began foraging in tree until I played short cut of chatter + they chattered. followed by chatter from pair #1. Both of pair #3 flew over toward pair #1 + another chatter.

0702 - pitz-a calls from area #2 + chatter - then pitz-a from pair #3 near boundary of 2+3 + chatter by pair #3 in shrubs.

0716 - one of pair #3 flew downhill to tree #3 giving pitz-a calls. followed in 10-15 sec. by chatter of pair #1. Bird continued pitz-a calls + was joined by a 2<sup>nd</sup> bird + chattered from tree #2.

0725 - pair #3 up into tree #2 where chattered followed by pair #1 chatter. Then I played back recording + pair #3 chattered again then flew uphill toward. lit in tree 10± yds uphill + chattered. playback this + pair #3 flew over to wooded gully where chattered from shrubs.





LLW01f  
1967

*Ammodramus humeralis*

July 24

Cañon de Lobos, 7 mi. E. Cuernavaca, Morelos, Mexico

0735 - one of pair #3 into tree #2 where ~~the~~ chirped + pitz-aed.

Also foraged. 0737 - flew back to wooded gully giving several pitz-a calls in flight. then silent.

0740 - one of pair #3 up into shrubs along gully giving pitz-a calls. then both flew to tree #2 where chatter. then forage in tree.

0742.5 - Both flew to N side of wooded gully where heard chatter followed by chatter from another pair farther to N. + chatter again by pair #3.

0750 - pair <sup>#3</sup> in low branches of tree on N edge of wooded gully. Pitz-a calls as I walk toward them. one flies out to tree #2 where sits quietly.

0757 - other flies up to tree #2 giving pitz-a calls. then chatter - both facing SW and 12 inches ± apart. Both calling + wing flicking - generally right wing but switch to left occasionally. One then forages up to N edge of tree while other sits quietly. Both fly downhill to shrub thicket.

0800 - both fly to N side of wooded gully - pitza calls enroute + chatter. Another chatter slightly uphill (N side of gully) at 0801.

0815 - walked over to N side of gully. heard pair <sup>(#4)</sup> chatter from tree as I approached they flew uphill + another chatter. then this pair flew off to N. & another pair <sup>(#5)</sup> flew up into tree just to south. pair #4 then chattered. pair #5 chattered 3 times in succession. generally sitting 3-4 inches apart & facing same direction, but did change positions so occas. facing opp. directions. On one chatter bird on left flicking right wing vigorously while other bird alternating wings + neither flicked more than inch ± from body. Other extended wing so almost perpendicular to body.





LW018  
1964

21

*Aimophila humeralis*

July 24 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico

0836 - one of pair #<sup>5</sup> up into tree with single pitz-a. then flutters as tries to pull something from canopy foliage. then series of pitz-a notes + finally chatter from just uphill + in shrubs. Followed by chatter well to N.

0846 - just uphill again pair #<sup>5</sup> chatters - both initially facing SE then one turns so facing W. on dead shrub 6± feet up. Both wing flicking - one right wing very vigorously - other alternating notes vigorously.

0854 - pair #<sup>5</sup> up into tree farther up where chatters. as I approach pitz-a calls + fly 20± yds to SW where start chatter - then stop as move up one branch then chatter again from dead horizontal branch 7 feet up. facing at 180°± to each other. then quiet. both then fly 70± yds to SE (down hill) - at least one giving pitz-a notes + chatter on landing.

0910 - found pair #3 foraging in low shrubs 40± yds W of tree #2 (uphill). flushed up onto bare perch 7' above ground + chattered. One then dropped toward ground... 1± minute later I flew up into low shrub + chattered 2± feet above ground. then into dense shrubbery low to ground. Pair #<sup>5</sup> chattered to N + pair #3 flew up to tree on S side of gully + chattered. then disappeared.

0926 - Series of pitz-a notes from NE of tree #2 40± yds. (on N side of gully). pair flies up into tree (partly defoliated) + chatters. followed by pitza note from just downhill + then chatter - possibly pair #1. pair on N side of gully flies off to NW 70± yds + chatters, then chatter again from farther to N. - apparently a boundary dispute.





LLWolt  
1964

*Amphispiza humeralis*

July 24 Cañon de Lobos, Pmi. E. Cuernavaca, 4800±ft., Morelos, Mexico

1000 - heard several more chatters & counter-chattering between pair #3 + pair #5.

July 25 Cañon de Lobos, Pmi. E. Cuernavaca, 4800±ft., Morelos, Mexico

nest #1 - no adult sitting on three eggs at 0605. ♂ sang twice from just uphill (just below road) while I looked at nest.

0615 - arrived at area of pairs 1, 2, 3 on east-facing slope.

0630 - sun hits this part of hillside.

0633 - pair #3 chatters from tree in gully. then silent. flies out to small (5') tree in area dominated by such trees in places forming almost a closed canopy. This on N side of gully 30± yds to N. sat quietly once picked once at foliage. Then flew on 30± yds to N. where chattered again from near top of 7 foot tree. Sat quietly for 15± sec then flew on to N where chattered again from same sort of tree. Then to W uphill - landed but no chatter. Then to NW (out of sight) where chattered. Appears that pair #3 + #4 may be identical.

0643 - pair #3 chatters from 6 foot Acacia 75± yds N of gully. One then hops out into plain view while other stays hidden.

0645 - both fly to top of 25 foot tree at N end of gully. where chatter. start chatter < 1 foot apart + facing same direction. Then one which had been wing flicking (right) vigorously worked up to top so 15± inches from other + facing in opposite direction, still wing flicking but not as vigorously - alternating two wings. fly to S. to other side of gully.

0648 - pair #3 chatters from tree #2 followed immediately by chatter of pair #1.





LH Wolf  
1964

*Aimophila humeralis*

July 25 Cañon de Lobos 7 mi. E. Cuernavaca, Morelos, Mexico 4800 ± ft.

0650 - hear two pitz-a notes followed by chatter from near boundary of pair 1 + 3, after 10 ± sec another chatter from slightly uphill - pair #3.

0652 - 2 successive chatters from area #1, but probably was 2 pairs.

0656 - several pitz-a notes precede chatter by pair #3. (S side of gully).

0701 - two pitz-a notes from area of gully precede chatter by pair #3 from gully. long chatter which is joined by chatter of pair #1. pair 3 flies to S + hear pitz-a notes. then chatter - twice in succession - then short chatter from edge of gully followed immediately by pitz-a from tree #2. one bird from edge of gully then flies up to tree #2 + chatter follows.

0705 - two pitz-a notes from area #3 (or #1) no chatter. after 30-40 sec silence pitz-a notes from area #1 + #3 - two calling birds separated by 30-40 yds. then pair flies into small tree near #3 + #1 boundary at S edge of gully. - chatter. pair #3 (prob. same pair) flies to N side of gully to 7 foot tree when chatter near top. both wing-flicking - one left - one right predominantly. then fly uphill 20 ± yds. where chatter again then fly off to NW + out of sight.

0720 - pair #1 chatters followed immediately by pair #3 100 ± yds. to NW of gully.

0755 - pair #5 chatters followed immediately by chatter 75 ± yds uphill.

Then this uphill pair chatters followed by a nearby pair.

0758 - pair #3 chatters from N side of gully.

0810 - found pair foraging uphill from area #2 + #3. In very thick shrubby second growth up to 6-8 feet tall. Mostly "moch orange". Makes

nearby continuous cover + no open areas of grass. Foraging in shrubs up to mid-height + down close to ground below tops of taller + herbs. Thin, but harsh tzcet notes may be young out of nest.





LL Wolf  
1964

*Amnophila humeralis*

July 25 Cañon de Lobos, Tri. E. Cuernavaca, Morelos, Mexico 7800 ± ft.

notes coming from in shrubby thicket near adults.

0825 - as I moved toward pair began pitz-a notes - very rapid + many in succession. Also tzet notes - young? Then quiet as they flew uphill 5-10 yds. One flew off to N along hillside while other flew up into tree to S. One to N continued occasional chip + pitz-a note while bird in tree quietly foraged on side of tree (partly defoliated) close to me. Foraged here for 3-4 minutes in canopy + then flew back toward ground to N.

One appeared 5-10 feet N of me in upper 1/3 of shrubs - pitz-ing loudly. Soon joined by 2 more - so 3 here at once. At least one of the newcomers came from downhill 10+ yds. All pitz-a loudly + worked as close as 5-6 feet away. Moving in middle 2/3 of shrubs. One then disappears + other 2 remain close calling loudly + constantly. Tail flicks while calling. Two then move uphill so 6-7 yds. uphill from me + land 1/3 way up in 6-7 foot tree. calling loudly frequency + volume gradually diminish to nearly nothing. Both birds begin preening with occasional calling - mostly pitz-a, but few chip notes. One flies uphill into shrubs where hear tzet notes. After 1 minute flies up into tree to N 10+ yds where moves to exposed perch facing me. Several times gives introductory notes to song + once gave one or two drill notes. Then back to where other bird preening in bushes. Both preen for 1-2 minutes then one begins to forage. Pulls at something + other bird moves up. Sings at same or nearby object + flies off NW followed by other bird (0855)  
0903 - ♂ gives two introductions to song + then bill of song. Then quiet.

0907. Two birds together fly back into same bush just uphill





LLWof  
1969

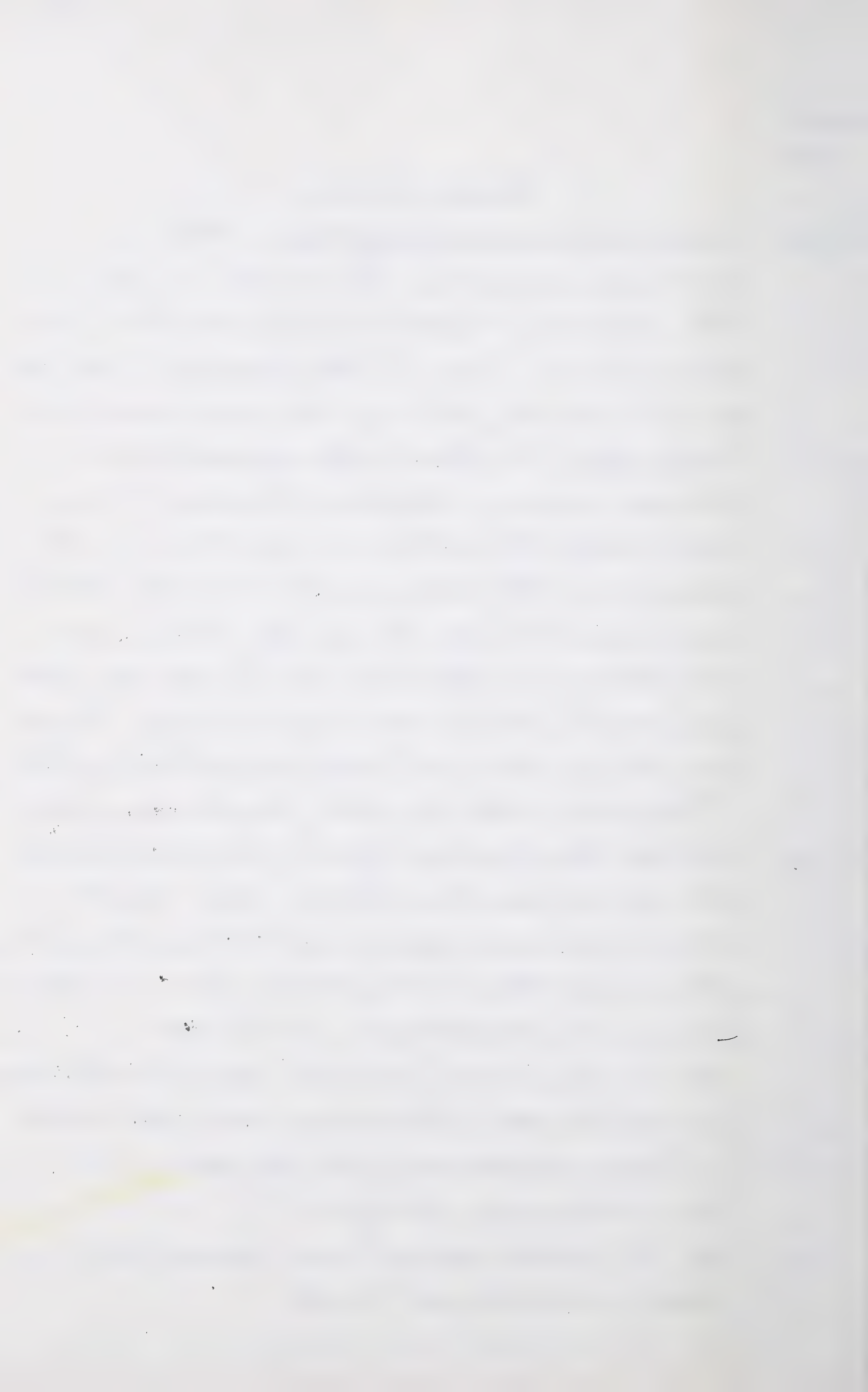
*Ammodramus humeralis*

July 25

Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico 7800±ft.

from me where perching earlier. Pitz-a loudly - on followed by other moves downhill 10± feet to 2 feet up in interior of 6-7 foot shrub. Both calling loudly. One then flies off to S where gives several introductory notes to song. Other moves off uphill when chirping softly. 1<sup>st</sup> then back to interior of shrub + pitz-a - a third comes into perching shrub where moves about 2± feet up. Calls occasionally. Still hear other bird uphill. 1<sup>st</sup> moves over to perching bush. While writing notes (0913) - two birds in thick Spring Sumac 15± feet S of me. One war for + other in interior about 7 feet away + chatter. Lower bird then moves up. Silent for short time then one begins loud, infrequent pitz-aing. Another comes into shrub 10 yds to NE (downhill) from me + also pitz-a loudly. 1<sup>st</sup> then flies over + chatter - one visible - facing downward + flicking right wing. Then pitz-a as moves off to N + then down hill + to S. 0918 - both back to near where chattered - calling loudly then silent for 10-15 sec as move off to N short distance. Hear 3-4 notes from shrubs uphill. 2 calling birds move uphill - still calling in series of pitz-a notes, but infrequently. Quiet at 0921. 0928 - bird singing introductory notes to song uphill when others headed. Find bird sitting about 4 feet up on dead branch of partly debilitated tree. Chirping accompanied usually by faint flick of tail. 0940 - bird turns on perch + flies off to S. 0941 - bird in same tree maybe same bird back - sings one full song b... followed by introductory note then quiet.





LLWotf  
1964

*Ammodramus humeralis*

July 25 Cañon de Lobos, 9 mi. E. Cuernavaca, 4800 ± ft., Morelos, Mexico

0955 - pair #3 chatters from area of tree #2 - followed immediately by chatter from pair #1. Then pitz-a + short whistle from pair #2.

1002 - pair #1 chatters from area of tree #1.

1017 - pair #1 chatters from area of tree #1.

1023 - hear chirp uphill from tree #1 + locate foraging bird. In shrub thicket topped by 8-10 foot tree + Acacia. working at one to 2 foot level in 3-6 foot shrubs. annuals cover ground to depth of 8-12" with bare, open or grassy areas. bird disappears uphill.

left area at 1100.

1105 - flushed ♀ from 3 eggs in nest #1.

July 26 Cañon de Lobos, 9 mi. E. Cuernavaca, 4800 ± ft., Morelos, Mexico

0610 - flushed pair #1 from on or near ground in small patch of 6-8" composites surrounded by 4-8 foot shrubs. flew uphill 10-15 yds + then farther uphill as I followed. flew up again from on or near ground at flew to S (along hill) pitz-a notes. then chatter from near tree #1. followed by chatter from pair #3 from tree top (25') on N side of gully. then quiet. flew across gully + to vicinity of tree #1 where both pairs chattered simultaneously. after pause of 30-40 sec. both pairs chattered again. followed by chatter of pair #2 from uphill. pair #3 then over to tree #2 where chattered. began chatter facing east on dead branches 7-1/2 feet up, near trunk. Moved up 1 1/2 foot + continued as one facing W + one facing N. followed by chatter of pair #2.

0627 - pair #1 chattered (after pair were to NE) from downhill of tree #1. then quiet. pair #3 apparently back to N. side of gully.





LL Wolf  
1964

*Aimophila humeralis*

July 26

Cañon de Lobos, 9 mi. E. Cuernavaca, 4800± ft., Morelos, Mexico

0635- pair #3 chattered from 75± yds N of gully. Then flew into tree at N edge of gully. Moved from 3± feet below top to top & chattered. Flew to N. one (♀?) went 50± yds. other only 30± yds. ♀? lit on main crotch of 7 foot "mock orange." Preened. Other bird to top of partly defoliated tree where sat quietly on dead branch. Began giving pitz-a call + ♀? flew over to land just below. Then chatter - facing to <sup>S</sup> + SE. ♂? seemed to be giving sl sl sl part of call (by movement of bill, while ♀? seemed to give trill. ♂? flicking left wing vigorously. Other began flicking left wing, but quit when changed directions slightly as moved up 6-8 inches closer to higher bird. ♀? then flew to canopy of next tree (partly defol.) where foraged among leaves. ♂? sat quietly on top of perch. 0645- had to leave area to talk with Policia.

0717 - heard pair #2 chatter from N. side of gully. As approached on S side pair #1 flushed from open area of grass & composites with a few low (2-3 foot) Acacia + other shrubs. Went up into vine tangle at N edge of gully. Worked to top when gave abbreviated chatter. Then flew off downhill to near top of partly defoliated tree 70± yds away. Here chattered with both birds starting with wing flicks but soon stopping. Then flew 20-30 yds farther downhill & chattered again. Saw another bird (19 pair #3) fly into tree at <sup>S</sup> edge of gully very near & just downhill from where pair #1 flushed from ground (small area of mutual use). Then pitz-a call from tree #2 as bird flew into tree. then chatter. followed by chatter of pair #1 downhill from tree #1. pair #3 then to S along hill.

0730- pair #3 chattered to S of tree #2 then one flew into tree. After pitz-a call other also into tree #2 when chattered. two birds initially 12-15"





LLWolt  
1964

*Aimophila humeralis*

July 26

Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico 4800± ft.

apart then come closer together so facing at  $90^\circ$ . both wing flicking (right) then change so facing to N + 2-3" apart. Pair #3 then flies off to N after following chatter by pair #1 from area of tree #1.

0818<sup>3</sup> - pair #3 chatters at N. edge of gully. then several pitz-a notes from pair #1 well downhill (50-60 yds). then quiet.

0822 - hear pitz-a notes from wooded gully. see bird fly S to tree #2 while other stays in vine tangle giving pitz-a calls. then 2<sup>nd</sup> flies to tree #2 giving pitz-a + chatter duet. begin as land then work close together (6± inches). one on left flicking right wing (inside wing). other bird is wet on ventrum (grass still wet). followed by chatter by pair #1 near tree #1. one of pair #3 flew down to them + another chatter - followed by yet another chatter. Bird still in tree #2 flew uphill 20± yds where gave chip notes (as doing in tree) then gave two pitz-a notes + bird from near pair #1 flew in first at level of bush tops. chatter + then chatter (20± sec. later) from slightly farther uphill then quiet.

0843 - 70± yds. uphill from tree #2 flushed single bird from on or near ground. had just been chipping softly. flew up into lower (6-7' up) branches of partly defoliated tree where copped about in foliage as if preening. then flew to E (down hill) 15± yds. flight normal at start, but fluttery 5± yds. & landing. Also began trill portion of duet chatter. NO bird joined it + began pitz-a calls. Birds from uphill flew down to tree in gully where sat near end of limb. First gave short x x series then began pitz-a calls. 30± sec. later one of pair #2 began pitz-a calls from uphill + then chattered. Bird in gully flew out to N when heard pitz-a calls + then trill portion of chatter + finally chatter.





LLW01F  
1964

*Ammodramus humeralis*

July 26

Cañon de Lobos, 9 mi. E Cuernavaca, 4800± ft., Morelos, Mexico

0904- one of pair #1 into 6 [<sup>orange</sup> ~~roch~~ <sup>roch</sup>] 3± feet up on bare portion of 1<sup>st</sup> main branch + close to stem. Sang L..... once then sat preening. Flew down toward ground. In 1 minute bird from same area flew up into partly defoliated tree + worked to top foraging as it went. Sat quietly at tip of branch then flew off to N.

0913- pair #3 chattered from outer branch of 25 foot tree (17-19 feet up) 100+ yds N of gully.

0916- heard soft chip notes in gully + bird up into canopy of 10 foot partly defoliated tree. forages among leaves in deliberate manner then (0919) flies downhill into undergrowth of wooded gully.

0921- pair #3 chatters from well N. of wooded gully. then quiet.

0939- pitz-a notes from N. of gully - pair #3, for 15± sec. then quiet as one bird flies uphill 10-15 yds. then more pitz-a notes followed by short chatter.

0942- 20± sec. of pitz-a notes from one of pair #3.

0944- pair #1 chatters SE of tree #1. more pitz-a notes from pair #3 but do not seem to be in response to chatter of #1. pitz-a continues until 0947 - in meantime a 2<sup>nd</sup> bird appears at top of tree (20' tall) at edge of gully where sits quietly. bird giving pitz-a call flies to S to gully + continues pitz-a. bird from tree flies over toward calling bird + gives several pitz-a notes in flight. then several loud pitz-a notes + chatter.

1020-1027- heard soft chip notes from below tree #1. flushed bird from on or near ground into small shrub 20+ yds downhill from tree #1. foraged + gave pit-j-a notes. heard chip notes off to S in "rock range" thicket. Pitz-a bird flew to NE 10± yds.





Walt  
1964

*Amphispiza bilineata*

July 26 Cajon de la Virgen, 9 mi. E Guzman, Mexico (1964)

+ joined by chirping bird. Continued chopping & flying on low (3').  
Acacia bird + sang over them from distance 5-10' as it walked near.  
Then bird up onto Acacia birds when giving ptz-a calls. Heard chatter  
from bird in bushes + saw two more birds drop from 10-15' up to 10' up  
then led by bird #1 all 3 flew up to tree 20-25' down from top of tree #1.  
pair gave chatter while #2 was silent. After chatter #1 began  
ptz-a calls. #1 then to top of tree #1 when gave ptz-a calls. pair  
flew into brood about 5' up + chattered from subcanopy then they  
moved up to 5' into 'rock range' while #1 stayed at top giving  
ptz-a calls. Another bird also began ptz-a from 20-25'. Daphnia  
from tree #2. Bird #1 flew to tree #2 + gave ptz-a. Bird up here  
continued calling for 30-sec + then quiet. Bird #1 continued calling  
from tree #2 + then flew up hill to other tree (10-15') + called. Now  
only bird calling except for single chatter from pair #1 in rock range hill.  
At 10:22 chatter from Daphnia from #2 preceded by 2 birds giving  
ptz-a including bird #1 but not seen which giving chatter in  
relationship of bird #1 to rest of pair. Then quiet.

11:55 - Bird not on nest #1 when observed. 30-40 Secs. 5' clipped + then  
flying from underneath just uphill.





LL Wolf  
1964

*Aimophila humeralis*

July 27 Cañon de Lobos, 9 mi. E. Cuernavaca, 4800± ft., Morelos, Mexico

0618 - one of pair #3 pitz-alup from N. edge of gully moves up into top of tree then flies to tree #2 where calls + chatter. both birds facing same direction + 6-8" apart. both flicking ~~right~~<sup>left</sup> wing, but ~~right~~<sup>left</sup> bird more vigorously. then fly off to S.

0620 - hear chatter in area #1 - sounds like more than pair #1. then another chatter from slightly uphill. pair #3 then back to shrubs near tree #2 where chatter following chatter by pair #2 which is just uphill. pair #3 to tree #2 + chatter - again facing east + 6-8" apart. At least ~~right~~<sup>left</sup> bird flicking left wing. then move off uphill. chatter by pair #1 from tree #1 + then downhill + chatter.

0628 - pair #3 back into tree #2. chatter after 2 introductory pitz-a notes. one facing S + one E. one facing east flicking left wing vigorously - followed by chatter from 100± yds. uphill.

0631 - from area of boundary of #3 + #2 - hear several pitz-a notes then ~~quiet~~<sup>short</sup> chatter + quiet.

0634 - pair #3 chatters from 40± yds. uphill of tree #2. followed immediately by chatter of pair #2 from farther uphill.

0636 - pair #3 chatters from tree 40± yds uphill from tree #2. then drop down into shrubs to forage.

0639 - fly up into top of "moch orange" in thicket. tallest plant in immediate area + chatter. facing about 45° + 6± inches apart. both wing flicking the inside wing. followed by chatter of pair #1 from tree downhill from tree #1. one of pair #3 immediately flies to bare top branches of tree #1 + pair #1 chatters again from tree downhill. bird in tree #1 drops down toward ground + then flies back





LLWolt  
1964

*Aimophila humeralis*

July 27

Canon de Lobos, Pari. E. Cuernavaca, 4800± ft., Morelos, Mexico

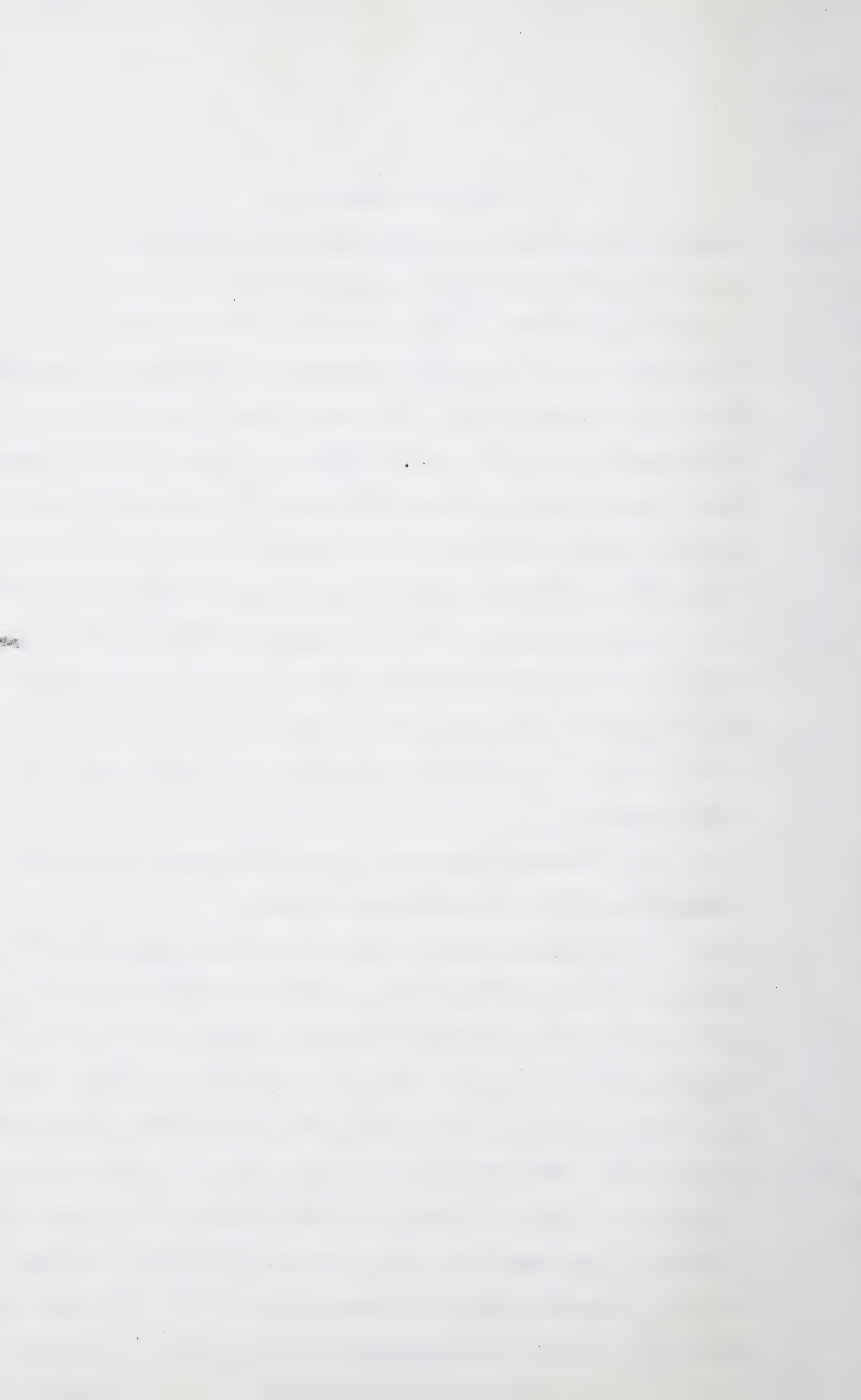
uphill where other member of pair is foraging on ground or near ground in "mock orange" thicket. Chatter. One then out to N to edge of thicket where perches just above weed layer in shrub. flies to another shrub slightly uphill & then back into thicket. Bird (prob. same one) flies to tree #1 where sits in top dead branches. quiet. hear chipping from thicket & then pitz-a as other bird flies into tree #2 continues pitz-a & bird from tree #1 flies in. lands 4-6 inches away as chatter begins. Flops (flutter, hop) along branch away from other bird until 2 are 15± inches apart as other moves up one branch. Fluttering left wing as moved down branch, then both, but not as vigorously. then fly off to N across gully where chatter.

0855 - pair #3 - hear pitz-a + chirp from N. side of gully then chatter + quiet.

0710. pair #3 chatter from N side of gully then from tree 50± yds W (uphill) from tree #2. then back across gully.

0713 - pitz-a calls as bird flies from gully to tree (uphill of tree #2) joined by 2<sup>nd</sup> bird + chatter. then drop down into thicket. one then flies to tree #1 where sits quietly on top dead branches. other flies 1/2± way to tree #1 & gives pitz-a calls from "mock orange" thicket. bird in tree #1 stays quietly for 1± minute longer then drops down to downhill side of tree #1. other member of pair #3 flies to tree #2 & gives pitz-a calls as pair #1 gives 2 chatter from tree to downhill 20± yds from tree #1. both times in exposed positions - once in subcanopy (7' up) once in canopy (10' up) & facing uphill toward pitz-a calls from tree #2. then move into center of tree as other bird nearly flies to N. edge of gully. Bird from

mutual  
display.





LLW&amp;H

1964

*Aimophila humeralis*

July 27

Cañon de Lobos, 9 mi. E. Cuernavaca, 7800± ft., Morelos, Mexico

Tree #2 flies over giving pit3-a calls + then joined by other + chatter.

0729 - chatter of pair #3 from N of gully again at 0732

0750 - ♂ of pair #2 sing ~~~~~ once from top of partly defoliated tree 50-75 yds. uphill from tree #3. sits quietly in top for 20± sec. then disappears.

0752 - chatter by pair #2 from area where ♂ sang. followed by 3 successive chatters by pair #3 on N. side of gully, but could uphill of level of tree #2.

0754 - nearly simultaneous chatter of pair #3 + #2 - 180± yds apart N-S.

0807 - ♂ pair #2 sings once (several intro. notes) from ~~tree~~<sup>area</sup> where sang at 0750.

Then quiet for 20± sec. followed by pit3-a calls + chatter of pair #2. followed by chatter of pair #3 on N. side of gully.

0810 - pair #3 flies from gully vegetation into tree 80± yds. W (uphill) of tree #2. no chatter + disappear.

0816 - ♂ (pair #3) up into same tree where sang 3 songs one after other. then foraged in tree as pair #2 chattered uphill followed by pair across gully. ♀ of pair #3 flew into tree from shrub thicket + gave 2 pit3-a calls as landing. then bill wiped. ♂ foraged thru tree &amp; ♀ moved to tree #2. ♂ flew down to join her giving pit3-a call. then chatter.

Both began foraging in tree - one caught larva which manipulated for short time + then flicked knocking off part, then manipulated + swallowed.

Then flew to gully (top of 25 foot tree) followed closely by 2nd. pit3-a notes as flying + while perched, but no chatter. Then chatter as pair flies to N side of gully. also chatter by pair further uphill on N side.





LLW 14  
1964

*Aimophila humeralis*

July 27 Cañon de Lobos, 9 mi. E. Cuernavaca, Morelos, Mexico 4800 ± ft.

0832 - chatter by pair #2 followed by chatter of pair #5 + pitz-a-calls from pair #3. latter 2 pairs on N. side of gully.

0842 - pair #2 chatters twice (20 sec interval between) from 50 ± yds up hill of tree #3.

0845 - pitz-a notes from 100 ± yds N of gully - probably pair #3.

0850 pair #3 chatters from 100 ± yds. N of gully. In "wood orange" 5' up at first main branching & other 1 foot ± higher. Both facing to S & wing flicking. One dropped down & other stayed in tree. Then flew to SW where chattered in shrubs - below canopy so not visible (0852).

0858 - pair #5 chatters followed by pair #2 (N. side of gully).

0902.5 - heard chips from area #1 & then pair #1 into 6' Beacia where chattered facing to NW. followed by chatter of pair #3 over to N. of gully. one of pair 1 disappeared. other moved to 1' foot above ground & foraged in shrub. then flew off to S. chips from downhill & then bird to SW to join other & more chips.

0920 - pair #3 chatters to N of gully as begins to rain.

0922 - as rain stops ♂ of pair #3 sings to N of gully then pair #3 chatters followed by chatter of pair #5 by chatter of pair #3 by #5. rain starts again at 0930.

0934 - pair #3 chatters following chatter by pair farther to N.

0940 - pair #3 chatters twice more.





LLWolf

1963

*Amorphila humeralis*

July 28

8 mi. NE. Antlan, Jalisco, Mexico

#5104 - body plumage fresh. molt on back. flight feathers worn

Found this species to be rather common on first hills NE. of Antlan. First located by chattering which is similar to A. ruficauda but seems to be higher + less harsh.

At 0630 mostly seemed to be in pairs. At 0730 we tried to collect some + found groups up to 4. These appeared to be natural groups as we chased after hearing chatter + did not push birds around much.

Vegetation preference is hillside covered with almost to entirely closed canopy of shrubby trees averaging about 15 feet high. Once had A. humeralis + A. ruficauda within 10 feet of each other - ruficauda in dense second growth scrub 5-6 feet tall + humeralis in trees. Herb layer is dense, <sup>dicots</sup> to short grass. Parts almost impenetrable.

While killing a wounded ruficauda the bird squeaked which was immediately followed by a humeralis arriving from further up the hill. As I tried to get a shot it flew back uphill.

Not sure of song as yet.

Chatter usually done by two birds - often picked close together. Sometimes 3 birds are together with 2 close to each other. Not sure if all 3 are chattering.





LL Wolf  
1964

*Amphispiza humeralis*

July 29

Cañon de Lobos, 9 mi. E. Cuernavaca, 4800± ft., Morelos, Mexico

0550 - ♂ of nest #1 singing L----- from 20-30 yds. <sup>downhill</sup> below the nest. Sang for 5± minutes then heard pitz-a calls + chatter from top of 15 foot tree downhill + to S of nest 40± yds. Both birds facing uphill + 4± inches apart. ♀ not on nest which contains 2 eggs, 1 newly hatched young plus its eggshell.

0605 - arrived at area of pairs 1-3 to observe.

0620 - pair #3 chatters from 100± yds. S of gully.

0625 - pair #1 chatters from tree downhill from tree #1. one bird then drops toward ground - another chatter.

0626 - pair #3 pitz-a notes as fly toward gully. pair #2 chatters followed by pair #3. pair #3 then chatters from further downhill closer to tree #2.

0627 - one of pair #1 up into tree #1. - giving pitz-a calls. two birds then into shrubs 10± yds uphill + then into tree #1. two of the three birds chatter - nonchatter above other 2. one of two then flies up to non-chatterer + two flutter downward together + separate + one of this pair plus third bird (not fluttering) chatter. then one bird flies off toward tree #2 + pair #1 flies downhill 15-20 yds. + chatters followed immediately by chatter of pair #3 from tree #2.

0637 - seen up pair #1 chatters from SE of tree #1.

0637.5 - pair #3 up into <sup>tree</sup> ~~pair~~ #2 when chatter from uphill side followed by chatter of pair #1 from downhill of tree #1. pair #3 forages for 15± sec + then has several chips as moves to N. side of gully where chatter followed immediately by chatter of pair #1 from "moch orange" 6-7 feet tall. one bird 6-8 inches from top +





LLWOLF  
1964

*Amnophila humeralis*

July 29

Cañon de Lobos, 9 mi. E. Cuernavaca, 7800± ft., Morelos, Mexico

other 20± inches down. Both facing NE. top not wing flicking. lower bird flicked right wing slightly for 2± sec. then quiet.

0648.5 - chatter by pair #2 uphill from tree #3, followed by several pitz-a notes & then chatter by pair #? from N of gully & about on same level.

0720 - constant chattering by pair #3 and another pair N of gully.

0721 - ♂ of pair #1 onto dead, horizontal, top limb of tree 20± yds. downhill from tree #1. giving introductory note to song. displaced from perch by Amazilia violiceps. ♂ drops into canopy but on bare portion of limb.

0723 - pair #2 chattered uphill from tree #3. pair #3 - pitz-a notes & then brief part of chatter.

0725 - short, attempted chatter by pair #2 uphill from tree #3.

0726 - chatter of pair #3 40± yds uphill from tree #2. then foraging in tree. one out on E side foraging & chatter from 10± yds uphill.

0728 - low bird leaves tree & flies toward ground 15± yds to SE. bird appears in tree #1 near top giving pitz-a calls. a 2<sup>nd</sup> bird from tree uphill of tree #2 flies to SE 15± yds & gives loud pitz-a calls. then chatter. bird in tree #1 disappears.

0738 - pair #5 chatters twice in succession from well uphill on N side of gully. no response from pair #3.

0746 - pair #1 chatters followed in 30± sec. by chatter of pair #3.

0748 - pair #3 chatters from 50± yds uphill from tree #2. then flies to N side of gully where chatters twice more as moves farther N. of gully.

0754 - ♂ #2 song twice from well uphill of tree #3.





LL0014  
1964

*Aimophila humeralis*

July 29

Cañon de Lobos, 9 mi. E. Cuernavaca, 7800±ft., Morelos, Mexico

0803 - pitz-a notes from one of pair #1. pitz-a notes from other member 50-75 yds to SW. bird (1<sup>st</sup>) below tree #2 flies to S 10± yds + chatter. followed by chatter of pair #3 ~~25~~ 75± yds to N. of gully + 75± yds uphill of pair #1.

0818 - ♂ or ♀ sings twice followed by several tziit notes then quiet.

0832 - pair #3 or #5 chatter from N side of gully.

0858 - flushed bird (pair #3) from on or near ground 50± yds. uphill from tree #2. went into 3-4 foot shrub thicket where foraged 2± feet above ground for several minutes before flying to N. side of gully.

0903 - one flew into gully vegetation + pitz-a then out to S side of gully 30± feet uphill from tree #2. continued pitza until joined by 2 other birds. All three flew 10± yds farther S. + two went into top of 7 foot shrub + chattered - tooth wing - flicking. One flew off to S + then 3<sup>rd</sup> bird also off to S. one returned + two birds chattered. then all three in bush + two chattered. one worked down to lower part of bush (one not chattering #3) + foraged just above ground. two others flew over toward gully + chatter as third joined them. all foraging in low shrubs. 1± foot above ground.

0912 - I flushed all three into tree #2 where sat about equidistant (6-8 inches) apart. Two chattering birds above other one. Then foraged in tree. One worked to S side where began pitz-a calls. finally (20± sec) this one + another flew off to S 20± yds where chattered twice - interval of 1± min. - then both back into tree #2 when third still sitting. All three fly over to gully vegetation + here chatter. Forage in partly defoliated tree near tips of branches.





LLW018  
1964

*Aimophila humeralis*

July 29

Cañon de Lobos, 9 mi. E. Cuernavaca, 4800 ± ft., Morelos, Mexico

0917 - all out to tree #2 where 2 chattered. Then at least two flew off to N side of gully where chattered then moved farther N where chattered again followed by chatter of pair #1 which then flew uphill to S edge of gully just below tree #2 + chattered again. Not sure where 3<sup>rd</sup> bird fits in relation pairs 1 + 3.

0933 - pitz-a notes from pair 3 on N. side of gully. (chatter to N of them (or may be 3 birds - one pitz-a + 2 chatter out together). Then more pitz-a + quiet.

0942 - pair #1 chatters from tree at S. edge of gully followed by chatter of pair #3 well to NW. pair #1 forages in partly defoliated tree + pair #3 moves down + chatters again.

0945 - pair #1 drops downhill 10 ± yds to bare ground at S. edge of gully + chatters followed <sup>(10 ± sec)</sup> ~~immediately~~ by chatter of pair #3 50 ± yds to N - have moved downhill. Hear one of pair #1 chipping at edge of gully.

0956 - both of pair #1 fly downhill. one perches 7 ft up on dead branches along gully. other turns S + lands in shrubs when begins pitz-a. Other flies over + chatters. At same time one of pair 3 gives several pitz-a calls from S edge of gully by tree #2.

0959 - pair #1 chatters again. while bird of pair #3 along gully continues sharp chipping.

1001 - flies to N edge of gully + pitz-a followed by pitz-a from downhill to NE. (50 - 75 yds.) two birds come together in partly defoliated tree about 1/2 way between 2 + chatter. Then quiet until 1003 when one followed by other flies 100 ± yds to NW + chatters.

1006 - ♂ #3 sings series of three songs - one right after other.



LL Wolf  
1964

*Aimophila humeralis*

July 29 Cañon de Lobos, Qui. E. Cuernavaca, 7800±ft., Morelos, Mexico.

1013 - single song from ♂ 1 50-75 yds downhill from tree #1.

1038 - single song - ♂ 1 from near tree #1.

1043 - on N side of gully - pair? starts to ~~chant~~ chatter & is joined by other pair. at least one is pair 3.

nest #1 - 70 cm above ground in Mimosa?

11 cm outside dia x 6 cm inside x 4.5 cm deep.

Grasses - getting finer to inside: few horsehairs in lining.





Wolf, L. L.

1963-1964

Aimophila mystacalis





LLSOF  
1963

*Amorphila mysticalis*

August 7

9 mi. SE. Jarcar de Matamoros, Puebla, Mexico.

#2196 - brood patch - body plumage fresh

2197 - little back molt. rectrices #1, #6, + #5 (right)  $\frac{1}{2}$  grown.

body plumage fresh. cl. prot. sl. eul.

3198 - brood patch - ~~prob. a juv.~~ adult - had white med. thr stripes

2201 - brood patch back molt rt #6 + #5 rectrices  $\frac{1}{2}$  grown.

body plumage fresh

\*2195 - heavy molt on back + crown. also molting something coverts.

On relatively open thorny tree - covered hillsides.

Occur from relatively open to cloud canopy vegetation.

There seems to be no real difference in taller vegetation to compare with A. humeralis habitat except there were ~~some~~ large cacti growing on the hillsides. The herb layer was relatively sparse (< 50%) + much of that present was thorny. Besides being more generally arid, this difference in herb layer vegetation may account for lack of humeralis or maybe better the abundance of mysticalis.

Saw *mysticalis* in groups of 2 or 3. From one group of 3 collected an adult ♂ + a juvenile just finishing the post juv. molt. Probably the other group of 3 was also a family group. Groups of 2 were undoubtedly pairs. One such group collected was a ♂ + a ♀.

Apparently *mysticalis* has either a long breeding season with pairs out of synchrony or else they are





LL Wolf

1963

2.

*Amphispiza nayaritensis*

August 7

9 mi. SE. Iguala de Matamoros, Puebla, Mexico

at least double brooded. Several ♀♀ collected today were getting ready to lay while there were also full grown juvs. essentially finished with post juv. molt.

Watched a ♀ just after collected ♂ ~ 20 feet away. She foraged about 1-2 feet up in legume tree near where trunk bifurcated. Some leafy branches here. When collected she had a  $\frac{3}{4}$  inch brown caterpillar in bill.

Chatter call of this species sound soft & muted like humeralis, but with individual notes less distinct & more shurred together. Heard individual birds giving chatter after I collected one of pair. Also had several instances of two birds flying into tree together & landing very close together & then commencing chatter. Thought both birds were involved. Not close enough to see details of any display connected with chattering.

August 9

4 mi. SW. Matatlan, Oaxaca, Mexico

John recorded song of one bird & got no response ~~from~~<sup>to</sup> playback. Neighboring bird responded by approaching recorder & singing back.

Song is ~ ~ ~ ~ ~ at 0630 bird is giving ~ ~ ~ almost entirely. Given from exposed perch in or near top of shrub on rocky hill side.

Has very high thin tweet note which sounds very





LLWOLF

1963

3

*Amphispiza mysticalis*.

August 9

4 mi. sw. Matatlan, Oaxaca

much like *A. carpalis*.

Pair reunion call raspy pee pee you, etc.

Just

--r--r. Giving after bird flushed from ground into small tree & away up & hidden by foliage. Not sure if two birds present. Bird then to top of tree (10 feet) on dead limb. Preening & giving feet notes.

♂ then worked down to lower limbs of oak & picked at insect (?) in terminal leaf clump on branch ~ 1 foot above ground. Another bird behind. Both down to ground & foraging on ground. As I approached to view they flew up into interior of 6 foot scrub oak. ♂ flew downhill ~ 50 yards & gave several introductions to song. Then began feet notes which were answered by ♀. ♂ began working back uphill. ♀ flew about 10 yards downhill. Two perched on dead twigs ~ 18" above main "canopy" of Chaparral about 5 feet apart. ♂ then gave "chatter" call & slight version of wing flicking display. ♂ flew back downhill after sitting silently for 30+ sec. ♀, apparently entirely a silent partner in this chatter, then also disappeared.

♂♂ are still singing & the pair I watched acted as if some breeding activity in the vicinity - nest or young. Singing ♂♂ are spaced as noted in Puebla.





LLW01f  
1963

*Amphispiza nelsoni*

August 11 11 miles SW. Matatlan, Oaxaca, Mexico km. 608.

singing ♂♂ spaced out over thorn scrub + up into scrub oak on hillside above Pan American highway. Found one pair. John collected a juvenile which was almost thru the post-juv. molt. Adult ♀ collected showed evidence - brood patch, ovary - of nesting about to begin. Apparently two broods. Heard several reunion chatters that sounded as if both birds were participating. Not able to see birds as they chatter so still not sure that ♀ contributes.

August 12 km. 66 on Pan Am. Hwy S. of Oaxaca, Oaxaca

♂ in top of 15-20 foot tree. First located while singing. then began to preen. while preening gave occasional tweet note accompanied by flick of tail. then back to singing ~ - - - - or ~ ~ or ~. Next (0730) found pair together near top of 15 foot tree. One flew slightly uphill for about 20 yards + lit just above ground. 2nd followed. One began salting at dead wood stems then both disappeared along slope. ♂ then up to 15-20 foot perch on dead limb ~ 3 feet from top of tree. Sat about 12" from trunk + singing. ♂ flew off perch + dropped down to near ground then flew along slope for 20-30 yards. Could see a chase with ♂ chasing a 2nd bird - probably the ♀. Both went uphill for 10+ yards + worked to ground or near ground in relatively dense herb + shrub layer vegetation. Can hear





LL WOLF  
1963

5

*Amphispiza ruficauda*

August 12 km. 616 on Pan Am. Hwy. S. of Oaxaca, Oaxaca.

Heard notes but not able to see birds. Saw both working along slope on ground. Progress by hopping - apparently foraging. Then disappeared again. Reappeared in shrub layer ~ 2 feet up as fly to ground. Work along slope again.

One hopped ~ 2' up just in front of dead bush before dropping to ground. Next reappeared as one followed by second flew back along slope into subcanopy of 20 foot tree. Then continued along slope for 10-15 yards & lit in shrub layer. Saw one hover & peck at something about 3 feet above ground. Then both dropped to ground. As I approached one (♂) flushed from ground onto nearly horizontal dead branch 2 feet up. Here bill wiped vigorously & flew slightly downhill to top of 20 foot tree where began singing. ♀ has apparently worked 10-15 yards uphill where I can hear a bird giving tzeet calls. This may have been another bird still. ♂ left song perch & flew along slope to 5-6 foot up branches of tree. There met ♀ that worked up from downhill. Both flew along slope & into dense shrub. ♀ then appeared & hopped along hill among shrubs. Never saw her go into bare open areas. ♂ several times appeared to bill wipe vigorously then back into shrub. Not sure if feeding in shrub or on ground beneath. ♀ then appeared with 5 straws in bill. Could then see where small bushes were





LLWof  
1963

6

*Amottila mystacalis*

August 12 Km. 616 on Pan Am. Hwy. S. of Oaxaca, Oaxaca, Mexico

Shaking high up on stream bank that goes down hillside near where pair foraging. She reemerged without streamers + bill wiped. ♂ flew back to song perch + began singing. Flew 10-15 yards uphill + sang several times when ♂ uphill began singing. Then back to song perch (1) to sing. ♀ flew along slope just below when ♂ singing + disappeared. ♂ then left also - not sure when or to where. 0851 - ♂ back to song perch #1. - singing but without trill. chuk ~ ~ ~ ~ ~. 0853 - began adding trill to occasional song. Another ♂ is singing on hillside several hundreds yards to north. Dropped to ground + uphill at 0858. Heard - - - - - (chweet, chweet - - -) from uphill; also occasional tzeet. This is apparently a pair reunion call so shortly the pair appeared foraging. I think they forage mostly on the ground + possibly in low vegetation. Except for moving bushes the only time I see the birds is when one or other flies up to horizontal limb to bill wipe. Then by steps it works back to ground + continues foraging. While birds obscured can hear occasional tzeet which probably is some sort of location call. Sounds very similar to note given by *A. carpalis* when flock feeding on ground. Birds seem to forage most frequently in dense herb layer vegetation around bases of shrubs. (0111)





LLW:lf  
1963

1

*Aimophila nuptialis*

August 12 km. 616 on Pan Am. Hwy. S. of Oaxaca, Oaxaca.

0924 - pair reunion chatter - sounded like both birds - from just uphill above song perch #1.

0936 - pair reunion chatter from approx. same location.

followed by chain then about 10 tzcet notes given in series.

0942 - ♂ singing from new song post uphill from #1 + near where heard pair reunion chatter.

Washed over to area where saw ♀ enter with nest material - no sign of nest. While there pair worked in shrubs 10-20 yards uphill. Heard tzcet notes + several chout notes. At 1019 one flew along slope followed by 2nd. ♂ flew up into song perch #1 + sang for 2+ minutes. Then flew off along + slightly upslope; disappeared.

1027 - ♂ back to song perch #1 - singing only partial songs without trill. 1029 - ♂ left + moved upslope. Rufous-rumped Wrens foraging just below his song perch.

1030 - ♂ singing about 10 yards upslope from a new song perch (#3). Can't see him from my observing spot.

1032.5 - ♂ flew along slope behind me giving "chek" note.

one bird, probably ♀, worked area around me in weeds + grass. Would gradually drop down from shrubs to ground + hop along ground. Twice saw her reach up + snatch + then jerk at nesting material. Did not see her pick up any food. Then she disappeared upslope. Still do not know location of nest + it may be that ♀ is merely picking up +





LLW&F  
1963

*Aimophila mystacalis*

August 12

km. 616 on Pan Am Hwy. S. of Oaxaca, Oaxaca.

manipulating nest material, but has not actually started building. Very difficult to follow birds when they are low in shrubs or when they fly so could be building + be very secretive about approach.

1115 - ♂ giving introductory note downhill + lower than song perch #1. ♀ worked downhill from above #1. heard chuck, chuck - - - "reunion" call. saw ♀ hover + pluck at top of 12" shrub as flew by. did not see if she caught anything, but she billwiped when landed 3 feet further on. ♂ flew across slope + began singing part of song 50 yards ± away. ♀ worked in series of short flights across slope in same direction. When she reached area where I thought nest might be she turned 90° + began working uphill. Then dropped to ground after starting across slope but always stayed 2-5 feet up in shrubs or trees. Several times hopped around shrubs like a vireo - gazing about then to another perch, gazing about, etc. - but never saw any movements like trying to capture prey.

Left area at 1135.

See journal for afternoon + evening.





LLWOLF  
1963

9

*Aimophila mystalis*

km. 639 -

2253 - light back, scap., + ventral molt cl. prot. - sl. end.

2265 - back + flanks molt. body plumage fresh.

2256 - edematous brood patch. body plum. fresh light body molt.

2257 - light breast + sides molt. up. tail cov. + several rectrices probably replacing loss accidentally. cl. prot. end.

2258 - light ventral molt. cl. prot. sl. end.

2259 - edematous brood patch central rectrices newer than rest of tail.

2261 - nothing to report.

2264 - light breast molt. brood patch.

2268

~~2268~~ light breast + back molt.

2263 - brood patch. no molt. central rectrices newer than 2-6.

2255 - light upper breast + back molt.

2267 - scaly brood patch. no molt.





LLWOF  
1967

*Aimophila mystacalis*

August 16 16.5 mi. SW. Matatlan, Oaxaca, Mexico Km. 616 on Pan Am. Hwy.

Area is Acacia + tree with spines on trunk - dominated hillsides. In places trees form almost to completely closed canopy at 10-15 feet up. Shrub layer well represented at 4-8 feet, but most pronounced at places where tree cover reduced. Herb layer of grass + weeds up to 2-3 feet tall. Much of grass grazed by livestock so just carpet up to 1-2 inches tall. Along fence bordering maguey field are Acacias + some perennials growing to 4-5 feet.

Pair #2 restricts most of their activities to S. side of road. When come to N side square duct as 2<sup>nd</sup> joins 1<sup>st</sup>. This usually is followed by duct of pair 3 which flies up into Acacia, maguey, or onto fence post. Heard pair 2-3, 2-4, 2-3-5 counter-duct. Have not heard 2 pairs start duct at same time so one is undoubtedly stimulated to duct by duct of 1<sup>st</sup>. Have twice seen pair as come together for duct + at least one bird is wing flicking at start, but only for 2-5 sec + for less than first half of the duct. Not sure if both birds wing flick.

Even though have counter-ducting by adjacent pairs they do not come together, but remain at least 30+ yds. apart. Birds do move closer together or along line parallel to other pair during ducting. Have not seen pair duct - even when counter-ducting - without changing perches. Always one bird follows the 3<sup>rd</sup> + chatter duct starts when 2<sup>nd</sup> arrives. Duct seems to function as territorial announcement by resident pair, but has not been completely changed from reunion performance. Both members of pair apparently contribute to the duct, but as in hummingbirds it sounds as if one sex is more elaborate.



pair #5

100 E yds

pair #2 Maquay field

pair #3

~~XXXXXXXXXX~~  
fence

Hwy.

Acacia  
+  
from front hillside.

pair #4

pair 6



LC Wolf  
1964

*Aimophila mystacalis*

August 16 16.5 mi. SW. Matatlan, Oaxaca, Mexico

Foraging done mostly on ground, with some in foliage of trees.

After members of pair 3 finished duetting with pair 2 the sexes dropped from mesquite tip to grass which is 12± inches tall + completely covering areas in field not planted in mesquite.

0900-1010 - pair 6 - first noted as only flew to dead twig at top of 15 foot partly thorn-trunk tree. Gave chip notes + then short single part of dust chatter - accompanied for 1-2 sec. by slight wing flick. Then quiet until 2<sup>nd</sup> bird flew into tree + both began chipping + preening. One dropped toward ground - apparently to hum layer while other remained in tree preening - prob. ♂. 30-45 sec. later it too dropped toward ground. As I approached both flew up onto bare horizontal branches 8± feet up + bill-wiped. Then began preening - One dropped (after 1+ min) toward ground + 2<sup>nd</sup> followed 10± sec. later. Rest of time spent foraging.

Foraging - mostly done between 1 + 8 feet above ground. Most in shrubs + low branches of trees. Do drop to ground + walk to 10 + feet in trees. Only items <sup>taken</sup> seen were insects - tree crickets, grasshoppers.

Forage by working along bare branches - usually horizontal, but did see one cling to vertical branch before dropping to ground.

Slow + methodical except rapid movements when changing perches.

Move to new perch + preen about before moving to next. More like a vireo than warbler. Most items taken were from or in foliage.

Several times bird peck at item + it dropped to ground. Usually bird then followed + occasionally a chain moved along ground. From movements was probably an Orthopteran being chased.





LLW 018  
1964

*Amphispiza nelsoni*

August 16 16 1/2 mi. SW. Matatlan, 4200 ± ft., Oaxaca, Mexico

On several occasions bird flew at leaf above or below it + picked it from in manner of a trogon. Often apparently missed + followed item to ground. Did not return to same perch when remained in tree. Did not appear to be too successful on initial attempt but did flush insects in this way.

When working along branch - from horizontal to vertical - usually rotated 180° for each advance. This was even when also flying to achieve new perches - especially when moving higher in vegetation.

On two occasions saw adult feed full grown young which shows black submalar streaks. Young crouched before parent + gaped with slight wing flutter. Once fed a tree cricket.

Twice saw adults prepare prey items. Once a small item was chewed on several times + then swallowed. Other was tree cricket fed to young - (after which adult flew from ground where young was to 1+ foot up in shrub where bird wiped). Adult followed this to ground from 5+ feet up. Caught it + appeared to snap off small part. Then recaptured it + repeated procedure. Then held it slightly up where caught + held in bill while flicked head in rapid jerks from side to side. Not seen if hitting cricket against substrate. Cricket then (a part of cricket) went 6-8 inches from bird which hopped over, picked it up in bill + worked it around in bill for 1-2 sec. before flying up to 1-2 feet from where dropped to ground.

Young also fed 4-5 feet above ground on bare portion of horizontal





LLWOK  
1967

*Amphispiza nysitacalis*

August 16 16 1/2 mi. SW. Matatlan, Oaxaca, Mexico

branch. After which it bird wiped + then dropped to ground as agilely as the adults - after perching at nearby foliage for 5+ sec. Apparently is able to care for itself, but still being fed by adults.

♂ sang for 10-15 sec twice - 1030 + 1055.

Vocalizations - chip note given much of time when apparently excited by my presence; chatter series (high, thin) - given occasionally when around young; high, thin tze - apparently given by young.

1130 - 1205 - watched pair 2 foraging. The only good observations were of one of pair twice picking a small red berry. First time stayed in tree and manipulated berry several times before finally swallowing it. Then picked the 2<sup>nd</sup> + dropped toward ground + disappeared. Did not see any captures but again birds were foraging from 1-8 feet up + rarely higher or lower. Did drop to ground several times, but too hidden by brush to observe.

August 24 16 1/2 mi. SW. Matatlan, Oaxaca, Mexico

0540 - heard first song of morning. Moon was full + there were few clouds. All singing - or - ..... by 0600.

0610 - down road 1/2 mi. from Km 616. heard pair chatter dust from near crest of small hill. followed by another pair to NW across gully. A 3<sup>rd</sup> pair further away chattered; pair to NW chattered. Hill ♂ began singing - ..... or - until 0622. Then quiet for 2 minutes when started singing again. Stopped singing at 0626 + began foraging.

0632 - two flew up onto dead horizontal branches about 4 feet up





LHW, f  
1964

5

*Ammodramus ruficapillus*

August 24

16 1/2 mi SW. Matatlan, Oaxaca, Mexico Km 666 on Pan Am. Hwy.

+ gave chatter duet. Little wing flicking by at least one bird, but soon stopped - before end of duet. Both birds then dropped back toward ground. One flew up to 1 1/2 foot above ground in shrub after 1 1/2 minute + bill-wiped. Other flew in + also bill-wiped, then flew off along slope. Other (1st) bird hopped over some dead branches of the shrub - bill-wiped again + then also flew off along slope.

During this time pair across gully to S chattered 3 times + this pair showed no reaction.

0700 - have not seen this pair for 1/2 hr. have heard soft tzeet notes from downtown, so left + walked over to find the pair to new.

0710 - ♂ singing from top of 7 foot dead shrub nearly at crest of hill.

♀ comes up from on or near ground as I approach + ♂ stops singing.

both 1-2 feet above ground in shrubs then work up into nearby tree about 6 feet up. ♀ giving chu, chu, chu, chut etc. calls while ♂ giving single loud tut notes. ♂ drops in one nearly vertical flight <sup>toward</sup> ground then into low shrub. works back up + drops down again. ♀ disappears (probably down into gully) + ♂ works up into nearby tree (6-7 feet up) where gives series loud two-parted notes that are the loud introduction to trill in regular song. occasionally pauses + begins again with the tzeet introductory note. Never launched into trill, altho birds across gully to S were singing complete song.

0730 - heard loud tzeet note + bird appeared in low shrub (2+ ft) about midway up hillside. worked across hillside in shrubs 2-3 feet above ground. no trees + shrubs form nearly closed canopy





LL Wolf  
1969

*Aimophila mystacalis*

August 24 16 1/2 mi. SW. Matatlan, Oaxaca, Mexico Kai-616 - 3000 ± ft.

at about 3 feet in this area 50 feet x 30 feet. finally disappeared off to W. along slope.

Birds inhabit all slope exposures on which, in this area, the vegetation is essentially the same.

0745<sup>NW</sup> pair moves across slope below me one, at least, calling chut, chut... then break into direct chatter which is joined by pair to N across ridge.

0746.5. another chatter by NW pair.

0755- walked over to N pair. flushed from near ground near ridge of tree to 7-8 foot shrub just over crest. sat preening.

then one + White-winged Dove from shrub just downhill flew to bare branches of tree 60-70 feet along slope. 2<sup>nd</sup> bird flew in 30 ± sec. later + chatter direct. both sat <sup>silently</sup> ~~quietly~~ in tree, but moving about branches then flew downhill + disappeared. a third bird began loud fast notes from near where pair first seen + moved down to join them.

heard several counter-chatter direct across hill + gully to N. also several chatter direct by single pair

0805- pair <sup>E</sup> ~~NW~~ chattered from near crest of hill. joined by chatter from across gully the quiet. Another chatter by pair <sup>E</sup> ~~NW~~ after 30 ± sec. + again "answered" by pair across gully.

0810- pair N up onto bar, nearly horizontal branch 10 ± feet above ground. gave chatter direct sitting 4-6 inches apart & facing same direction. one then dropped toward ground moving downhill. other moved 4-5 feet higher in tree & landed on several terminal leaf clusters. then





LL Wolf  
1964

*Amophila mystacalis*

August 24 16 1/2 mi. sw. Matatlan, Oaxaca, Mexico Km. 616

it too dropped toward ground.

0820 - flushed one of pair E (uphill from W + across + uphill from NW) from ground. up into lower (6-8 foot) branches of tree just below ridge. began tzet notes, a 2<sup>nd</sup> bird flew into far side of same tree. 1<sup>st</sup> dropped <sup>toward</sup> ground & 2<sup>nd</sup> sat "tzeeting". As I walked down 2<sup>nd</sup> flew uphill slightly & along ridge to E. 1<sup>st</sup> came up from ground into lower branches of tree where full-winged. After 20+ sec. also flew off to E. 15+ sec after arrival heard chatter, dust - probably when pair moved slightly farther to E.

0838 - one of pair E had apparently worked down one side of ~~cave~~ <sup>ridge</sup> to W while on other side. one on S side began tzet notes & flew up to near top of 20+ foot tree on ridge. then with chut notes flew down to join other. Chatter dust. one followed by other then flew along slope to E when another chatter dust when landed. After 10+ ~~sec~~ sec. flew to SE slightly uphill - one following other - short chatter when landed.

0845 - one of pair E foraging in canopy layer of 15+ foot tree in area of essentially cloud canopy. as moved around in canopy drops of water shook from leaves.

0851 - ♂ E began tzet notes, gave one two-parted introductory note then flew off to E. where gave tzet notes followed by one short song then quiet.

0855 - tzet notes from area where ♂ seen.



Wolf, h. h.

1963

Aimophila notosticta





LL Wolf  
1963

*Aimophila notosticta*

August 9 4 mi. sw. Matatlan, Oaxaca, Mexico.

2522 - juv. Bill brown above, yellow-brown below.

iris brown. legs light gray-brown.

habitat

came in to "scrub". In heavy oak scrub on rocky hill side. dense herb layer except where rocks exposed.

only few 1<sup>st</sup> winter feathers on back.

stomach c girt, seeds + looked like a little insect fragments.

John reported finding three birds + I found at least 2. All in scrub oak on rocky hill sides. In spots scrub oak is not the dominant vegetation, but it is all shrubby with appearance of Chaparral. Except for juvenile collected all were singing ♂♂. Song is similar in quality to Rufous-crowned Sparrow, but does not vary as much in pitch. Starts with one or two introductory notes + then a trill-like chatter often followed by several distinct notes.

August 10 4 mi. sw. Matatlan, Oaxaca.

John recorded 2 ♂♂ which I subsequently collected. Saw one silent bird, but did not collect it. Had hoped to watch some behavior, but as with other birds seen this one dropped from perch in about middle of shrubs but on bare part of limb down to + into dense lower layer vegetation. Waited 5+ minutes for bird to reappear + walked in. Bird had disappeared.





LLWoot  
1963

*Aimophila notostriata*

August 10

4 mi. SW. Matatlan, Oaxaca, Mexico

Second ♂ collected today flew across stream bed to hillside & disappeared in vegetation. When I approached it was perched on dead twig & seemed to be "hunched" down on perch. Was definitely fluffed out. Unfortunatly mistakenly collected this bird with 16 ga. #6 shot & it suffered considerably.



Wolf, L. L.

1963 -

Aimophila

quinguestriata





HLWoff  
1963

Amphispiza bilineata

July 13 20 mi. E. Mazatlan, Sonora, Mexico

At least 3 singing ♂♂ here. Found 2 in 50± yards. One singing while preening. This one on dead limb above shrub canopy 20 feet up. Other not evident.

Vocal: 1st song - 11 ..... for 5± min. + then flew down to a mesquite - 50 yards - then to rock pile 10 yards away + up onto dead limb - then to east to hill. Silent back in 5± min. to sing 5-10 songs then quiet.

The other singing bird often gave just a 11 + left off trill.

0640 - chase - one bird 1-2 feet behind other - down a little gully. giving slurred chattering note. attempted to land on ~~back~~ dead, horizontal branches 15 feet away. both fluffed + with tail spread just before landing. continued on down slope followed by 3rd which joined chase just in front of me.

Next saw 2 of these birds foraging up a small draw, down which they had chased. One was chased to near me by a Brown Towhee. Stopped + then was chased again. ~~Both birds~~ This bird then flew down to ground caught a "caterpillar" at least 2x length of bird. Ate by flipping caterpillar against rock to soften + then gradually swallow by bits.

Saw 2nd bird catch + eat small moth. Also flipped head one or twice during process of swallowing.





LLWOLF  
1963

*Amphispiza bilineata*

July 13 While foraging on ground this bird moved by hopping. Peered up into small shrub (8-12" up) or mesquite branch. Flew to just above where caterpillar was + reached down (below feet) to pick it off. Caterpillar fell to ground. Bird gave several sharp notes + dropped to ground. Hopped over + picked up caterpillar. Flew 6" to small shrub stem + then 6-8 inches to rock. Here beat caterpillar by pounding against rock with flipping motions of head. 1<sup>st</sup> on side then other. Try to swallow + beat again. Pick up 1 1/2" morsel left + run full length thru mouth. Then beat again + swallow by bits. During beating some of insides were splattered on rock + rock 6 inches away. Then back to ground to forage. Rock on which beat was 6" x 4" x 3".

Saw one bird catch a caterpillar + act as if picking it apart while holding with feet + else lying on rock just in front of bird. Saw one fly up + land on perch + pick at "insects" on leaf directly in front.

Bird which ate caterpillar to ground, then flew 2 feet to short shrub. lit 3" above ground. Then to rock pile surrounded by vegetation. Hopped 4 feet length of pile (4 feet up) + Yellow-bv. Chat. flew within 6-8 inches + lit in bush 2 feet away. Then chased 5-stripe in circling flight ending 20 feet up drew a 5-stripe





LLW018  
1963

*Aimophila quinquestriata*

July 13 in tree 10 feet up. Bird then flew off after giving several chip notes.

vocal

0705 - singing by neighboring ♂ seemed to be stimulated when nearby bird starts singing. Generally trill of song is given after short 1± sec. pause.

Area where foraging - is small gully - sides 10-20 feet higher than bottom + slope of  $5^{\circ} \pm$ . One large deciduous tree, shrub layer of legumes - 25-50% closure here, but more on hillsides. Almost complete herb layer of grasses + herbs apparently just coming up. All is very green. Some dead shrubs + twigs on ground + scattered rocks. Most of last are less than 1 foot in any dimension - most  $\sim 6"$ . Several bare rocky areas within 20 feet. Birds foraging 10-15 feet in length in  $3 \pm$  minutes.

habitat  
+  
foraging

0730 - ♂ singing from 20 feet up in 25 foot mesquite sitting on dead horizontal branch just below canopy. flew uphill 30-50 feet + immediately resumed singing. 5-10 feet down from top of 30-40 foot deciduous tree. Stands  $\frac{1}{2}$  of its height, at least, above shrub canopy. Bird on bare part of a small branch, but actually at edge of canopy.

song  
↑  
mesquite

forage

vocal

0750 - bird foraging at edge of + on rock outcrop. Giving almost continuous series of tzit notes. Alternate occasionally with sharp chip. Once given after climbing





LLWoff  
1963

*Aimophila juncostrata*.

July 13

forage

up 2" on a small plant. Foraged for 25 feet + 3<sup>+</sup> min.  
& caught at most one insect. After initially circling  
around tree base began working up slope at angle  
to slope. Worked thru pile of sticks lying on ground.

usual  
+ chasing Towhee

Singing near top of 30 foot mesquite 100-150 feet to  
west. left top + worked down to near ground level - still  
singing. Brown Towhee flew at least 100+ feet from  
crest, stopped on dead horizontal limb + then flew  
at + chased singing bird. Both disappeared down slope.

Foraging bird mentioned at top of this page seemed to have  
all (or mostly) new rectrices.

#1975 - when tail  $\frac{1}{4}$  grown. n like UPH 177 for gonads.

Jan 197 - testis  $11 \times 7$  mm. cloacal protub. enlarged. wings  
looked new as did out 2 pair of rectrices.

habitat

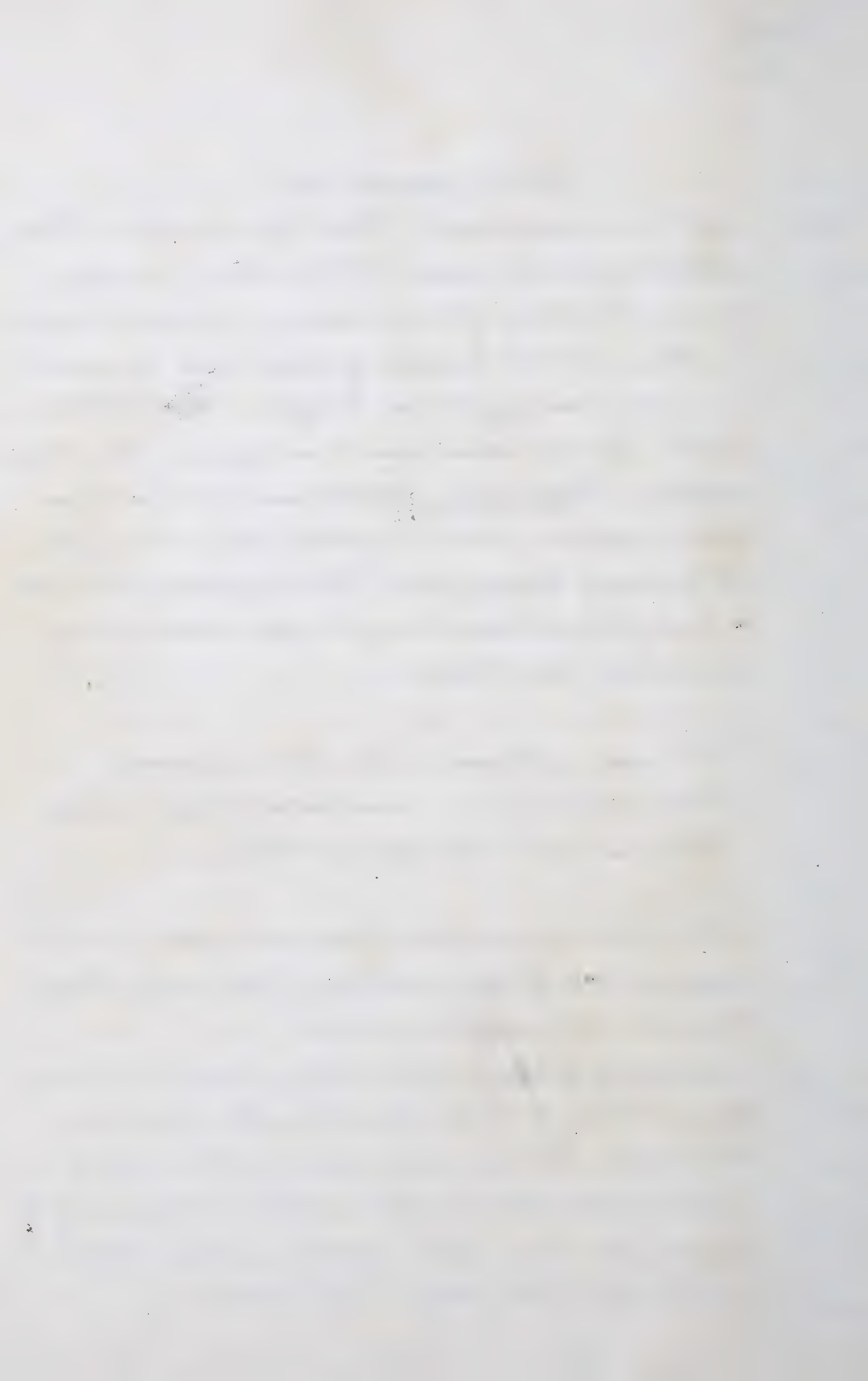
This species is found on hillside covered with 10-20 foot  
leguminous trees forming essentially a closed canopy. Understory  
at present is annuals just coming up.

carpalis

*Aimophila carpalis* occurs in same locale, but seems  
to be restricted to bottom land where the canopy is  
not closed. Both are common species in their habitat.

forage  
or  
habitat

In collecting afternoon shot an adult ♂ foraging silently  
in very open grassy, gully among some dead branches.  
Was 15 feet from nearest "blan" forest.





UW014

1963

*Amphispiza bilineata*

July 13

warble /

egg white

inverted

usual.

2 ♂♂ in same tree

Another was shot just at edge of "bean" forest 50 feet from previous bird. Was heard giving a sort of warble song from perch 7 feet up. As I walked up to retrieve specimen another bird walked slowly away up hillside. When collected this was a ♀ w/ four ruptured follicles - apparently had been very close when ♂ was giving warble call.

Song normally from elevated exposed perch, but found ♂♂ singing from on or near ground when I was chasing them to collect.

Chased a tailless ♂ - earlier singing - into tree containing another singing ♂. 30+ yards from where tailless ♂ first sighted. Saw no outward sign of aggression although tailless ♂ stayed in outer edge of tree. Collected both birds.

July 14 20 mi. E. Mazatlan, Sonora, Mexico. Kar. 114. 40852.0

usual

usual forage

pair lit in "shrubs" at crest of hill. One very agitated at my approach & flew over my head to dead limbs 30 feet away & 25 feet high. 2<sup>nd</sup> disappeared over hill & a ♂ began singing over there. 1<sup>st</sup> began hopping in shrub layer generally 2-3 feet up, occasionally dropping lower. uttering chirp notes continuously. Saw another coming down from next hill & bird I had been watching gave long tziiit. One of these two continued to move in shrub layer at 2-3 feet. Looked as if



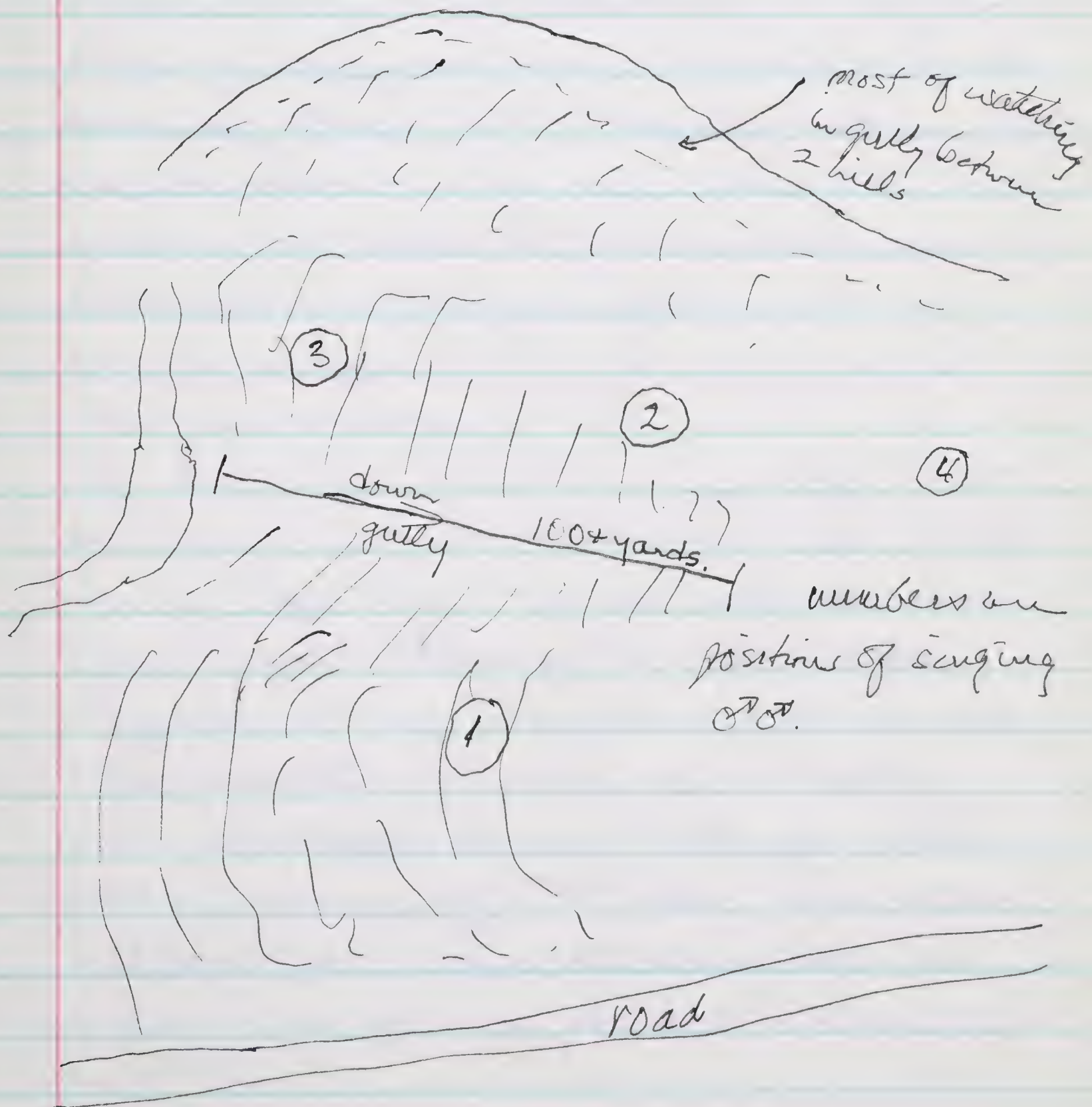


LLWOF  
1963

*Arreophila gringuetriata*

July 14 was foraging + was silent. peering about branches while moving in trees (small). Did not see any attempt to capture food. Disappeared.

0700. Bird up to 4 foot legume trunk to bill wipe. Another bird foraging 30 along slope. 1<sup>st</sup> gave 13eep - loud, harsh - both flew up gully on other side. to area #3







LLW 815  
1963

*Aimophila quinquestrata*

July 14 saw 1 heard Canyon Wren near position #1. along  
crest of hill are series of rock outcrops.

In 3± minutes of watching a pair - one of birds earlier  
seen just uphill, told by long brown rectrix - foraging  
on north hill (south facing) They spent half or more  
of their time in the small trees (up to 5-6 feet.)

In ~~the~~ "subcanopy" when ~~some~~ <sup>some</sup> limbs + some foliage.  
Progress by hopping from branch to branch peering at  
surrounding foliage. Did not see any captures. Also  
some time on ground. These birds alternated the 2  
substrates, but greater % of time in shrub layer.

Did not restrict to one species of tree & did not  
only choose legumes. Also forage on fallen, dead  
shrub layer vegetation.

0835 - Bird flew from crest to land in top of 40 foot  
tree in gully. Just below landing (only time seen) flight  
was very floppy. Bird lit w/ tail cocked ~~over~~ well  
above horizontal. Maintained this with feathers  
fluffed for 30± sec. Then gradually tail lowered  
& body smoothed. Probably an alarm reaction.

0837 - Bird singing from crest. Another just below  
crest in subcanopy of 8 foot legume. This second  
bird giving tzet, & chup notes while first was  
singing. Singer left & was followed 30± m. later  
by 2<sup>nd</sup> bird.





LH Wolf

1963

*Aimophila quinquistrata*

July 14 - Brown Towhee + Canyon Wren also forage on ground in this habitat, also Cactus Wren. All possible competitors for 5-stripes.

0700 - bird flew in to rock outcrops. Again very floppy flight at end. Lit again w/ tail cocked - ~ 60°. very jerky jumping around - wing flit + tail pump. Gave one chirp note + was joined by a 2<sup>nd</sup> bird giving same movements. Two were ~ 2 feet away, bodies at rt. ang., but facing each other. Then disappeared over crest.

Amount of singing has decreased. - mostly increased quiet interval between song bouts.

0905 - watched pair foraging for 10± minutes. When 1<sup>st</sup> seen one bird (partly grown rectrix) had 2 inch caterpillar. Beat it against rocks, mandibulate from end to end, beat, mandibulate, beat, + eat. Bill wipe. Then hop 2-3 feet and catch ~ 1 inch green caterpillar. This swallowed w/ no preliminaries. Both members of pair spent most of time foraging on ground. 10%± of time in legumes + other species. Much of time on rocky outcrops. Food obtained here is questionable - at best probably not many caterpillars.

When ♂ across gully began singing ♂ of this pair also started.

40927.0 Hermosillo





LH Wolf  
1963

*Amphispiza quinquevittata*

July 31 Barranca de Oblatos N. of Guadalajara, Jalisco

food | #2129 - 17 mm. green caterpillar + mostly digested multi-seeded fruit in stomach.

found 5-stripes - one or two singing ♂♂, in small groups as we came close to Rio Verde on North side.

Seemed to be restricted to densely vegetated arroyos - closed canopy + dense ground cover - mostly herbs + not grass.

Chased one up to edge of dense scrub whence it flew back toward stream. Saw no ♀♀ for certain, but from gonad condition of ♂♂ this must be breeding season.

voice | Song is impossible to distinguish from Sonora Birds.

August 26 20 mi. e. of Mazatlan, Sonora, Mexico

2415 plumage worn, no molt, enlarged cloacal protuberance.

2416 plumage worn, no molt, enlarged cloacal protuberance.

2420 plumage worn, no molt, enlarged cloacal protuberance.

2419 plumage worn, no molt, brood patch.

2421 plumage worn, no molt, brood patch.

2422 plumage worn, no molt, enlarged cloacal protuberance

2423 plumage worn, no molt, brood patch. <sup>hard-shelled egg</sup> pure white, in oviduct.

2424 plumage worn, no molt, enlarged cloacal protuberance

Found birds either singly or in family groups.

♀ with egg in oviduct was alone when collected

voice | ♂♂ still singing + I think ♂ with 3 young (2416) was singing as I approached area where family was.





LWoff  
1963

*Arreophila quinguestrata*

August 26

20 miles east of Mazatan, Sonora, Mexico

family  
vocal { When I flushed family group they all flushed almost together. All were low in shrubbery or on ground. Began giving series of harsh chirp notes. Uttered in groups of notes with pauses between.

Found several lone ♂♂ singing from exposed perches. Appears that birds may be at least double brooded.

habitat { Habitat has become much more verdant. Herb layer is now 4-5 feet tall in many places + very dense. Some areas under closed canopy still is relatively open + easy to move thru. Birds seemed to be mostly in the denser shrubs + herbs, but not in complete open (as pines) where Convolvulus + other weeds are almost impenetrable.





Wolf, L. L.

1963-1964

Aimophila ruficeps



LCWalt  
1963

*Amphispiza ruficeps*

June 24 - see Journal

June 25 - Molino Basin, 15 mi. NE Tucson, Pima Co., Arizona.

In this oak-grass area in the Catalina Mts. ruficeps is paired + occurs on rocky slopes covered w/ grass, agave, + other sisal-like plants. I heard at least 3 singing ♂♂. John collected one bird - ♀ w/ stage 3 brood patch + an ovum of 2mm. Was not able to see if any post-ovulatory follicles. Saved stomach + internal parasites.

Was unable to record song, which sounds very similar to one of the Berkeley songs. One ♂ I followed went 100-150 yds. along slope. I am not sure just how large the territory is, but the birds are much more widely spaced than is carpalis on Wilcox Rd.

June 30 - Guadalupe Canyon, Hidalgo Co., New Mexico

species common on both slopes above floor of canyon. birds are singing actively up thru 1030. Habitat is mesquite, creosote, grass, yucca, Agave with many bare rocky areas. Thought I saw one family group of four, at least one bird looked to be in juvenal plumage - view was too short to be sure.





LLW81f

1963

*Amphispiza ruficeps*

July 1 mi. S. Animas, Hidalgo Co., New Mexico. Canton Canyon

Antons-crowns fairly abundant on hillsides in this area. Even occur in pine-oak woodland (see Marshall's Birds of Pine-oak.) ♂♂ are not singing long bouts - generally one or two songs + quiet. I heard only a few songs (2-3) between 0700 + 1000. Both ♂♂ collected had enlarged testes + cloacal protuberances. Both were worn.

Bird I shot (1909) came in to "s-churr" + was immediately joined by a second. They lit near outer end of pine branch 7 feet above ground. Don't recall any vocalization. John's bird (1908) was singing while foraging on ground when collected.

~~1908~~

July 4 Bear Mt. mi. NW Silver City, Grant Co., New Mexico.  
called one in by squeaking on back of hand. after chasing it for 5 ± minutes + firing two shots it stopped in a patch of poison oak. calls were very agitated + started with series of dear, dear, - - + then broke out along chatter. This was almost continuous for 1 ± minutes. Bird continually changed positions in the shrub. Seems to have a stage 2 brood patch. Is very worn. She had a slightly enlarged ovary (largest ovum - 2mm). Probably had not bred yet.





LLWoff

1963

*Amphispiza ruficeps*

July 4

mi. NW Silver City, Grant Co., New Mexico.

Two ♂♂ collected today had enlarged testes + cloacal protuberances. All birds were worn + it appears that breeding has not commenced yet. Birds must be paired as singing is so reduced. ♂♂ are spaced at 50-75 yard intervals along slope in groups.

July 5

20 mi. NW Cliff, Grant Co., New Mexico

Singing ♂♂ active on rocky hillside with scrub oak, Ceanothus, + Juniperus. Scrub was about 3-6 feet high. Junipers up to 15+ feet. Also scattered grass. ♂♂ generally singing from tops of dead junipers. When pursued they sing from on or near ground in dense cover - scrub oak, Ceanothus, or dead brush. Noted that these birds only flew 20-50 feet when flushed - other days (other areas) birds would not allow the close approach (30-40 feet) they would bare + generally flew much farther when disturbed.

One occasion I approached bird sitting on dead limb at top of 3 foot scrub oak. This bird was giving trill notes with pumping of tail. Another bird nearby was giving chatter call. I shot exposed bird + 2<sup>nd</sup> flew to base of juniper. Shot was a ♀. 2<sup>nd</sup> bird joined by a 3<sup>rd</sup>. 2<sup>nd</sup> stayed low in scrub





L. Wolf  
1963

*Amophila ruficeps*

July 5 while 3<sup>rd</sup> worked up to top of prairie growing + joint notes. 2<sup>nd</sup> was quiet. 3<sup>rd</sup> was ♂ with enlarged cloacal protuberance. Unable to collect 2<sup>nd</sup> bird. Did not see a 4<sup>th</sup>.

Probably 6-10 pairs on area of 300 x 200 yards. Also common here were Spizella atrogularis.

Noticed that central pair of rectrices more worn than other 5 pairs. Suggest last molt did not replace central pair. Premuptial?

July 20 mi E. Santa Lucia, Sinaloa, Mexico El Batel

#2828 - juv. ♀. one patch of new feathers on low mid back. few new on ventrum. looks like started p.p. molt + stopped. juv. was taken in area where a ♂ had been singing.

Watched a pair of birds on an open pine-oak hillside. Herb layer was well grazed except on very steep parts. It consisted mostly of small dicots, <sup>canopy 35-50% closed</sup> grasses becoming more abundant when no grazing. First attracted to the birds when they were chased by Junco phaeonotus. Gave deer, deer call - sounded less harsh + striking than Berkeley birds. Both birds foraged on ground where vegetation least grazed. One kept flying to where very short herbs - I was unable to find a nest. One foraged out into short cover + at no time was it hidden from view. Twice pecked at base of small plants - otherwise seemed to peck randomly.





LL Wolff  
1963

Amorphia ruficeps.

July 20 Tried to collect pair, but unsuccessful.

July 21 9 mi. E. Santa Lucia, Sinaloa, Mexico El Batel.

heard several singing birds - all on relatively bare pine-oak hillsides. Cattle + goats graze thruout area keeping ground vegetation low.

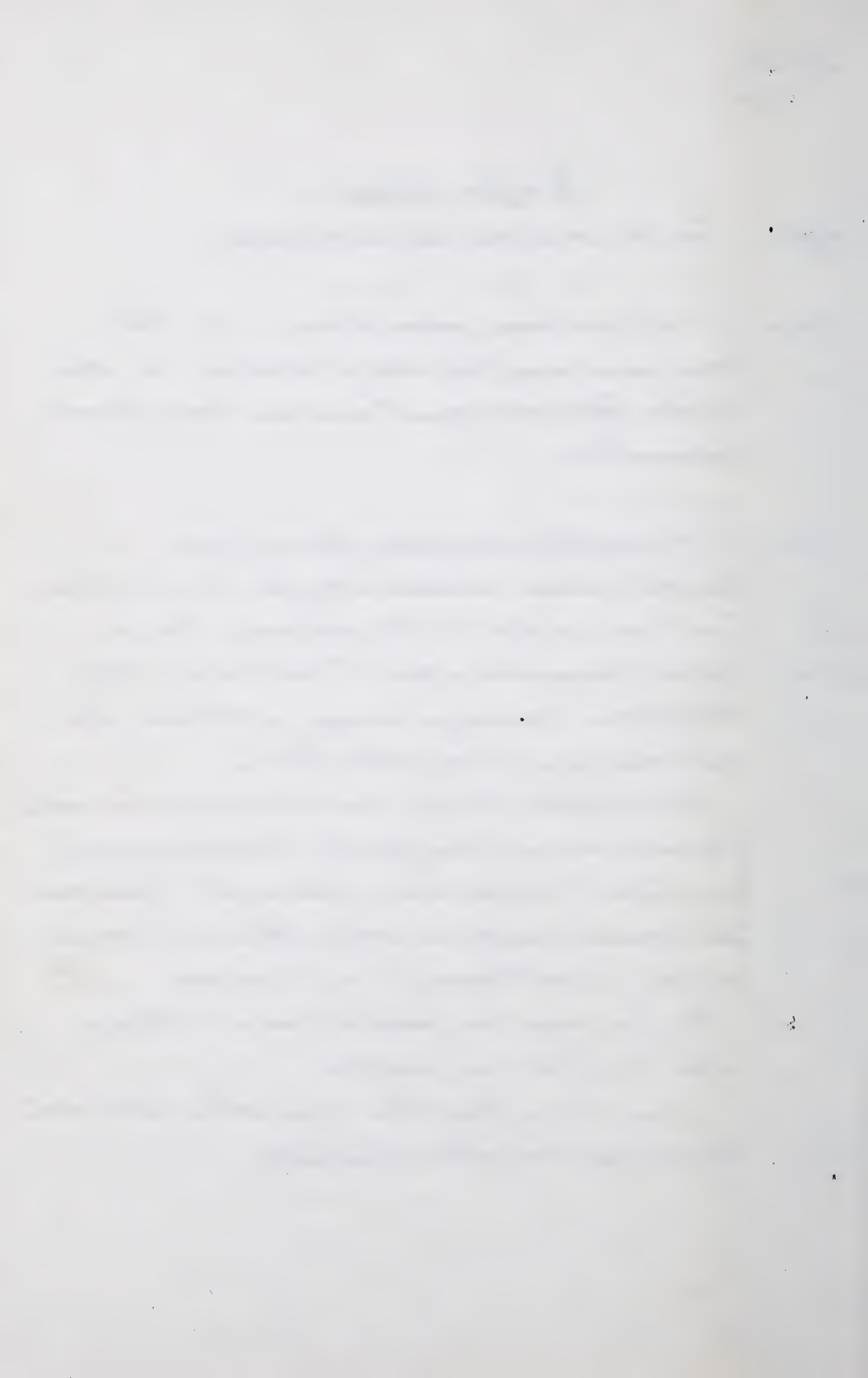
July 31 9.5 mi. N. Ixtlahuacan del Rio, Jalisco, Mexico

In oak-juniper woodland with good herb + grass layer. Saw 2 pair at about 50-100 yards apart. One pair flushed from ground as a pair. ♂ had enlarged cloacal protuberance. Generally in openings in woodland where grass + weeds were 4-8 inches tall + thick.

One bird watched foraging hopped along on ground pecking at ground or around bases of plants. Would occasionally hop + flutter 8-12 inches into air + pick insect(?) from plant. Once apparently caught one stuck in spider web. Covered an area of about 75 square feet in 1-2 minutes.

Song here sounds very similar to birds in New Mexico + John says "dear dear" does also.

Ground here is bare of rocks which makes habitat much different from rocky hillsides of A. v. scotti.





LLWolf  
1963

*Aimophila ruficeps*

August 9 4 mi. sw. Matatlan, Oaxaca, Mexico

Spaced, surging ♂♂ found on rocky, scrub-oak hillside with A. mystecalis + A. notosticta. One juvenile collected + ♂ collected had enlarged cloacal protuberance. Probably still some breeding activity. Birds seem to frequent open grassy areas rather than where ground layer vegetation is dicots + thick.

August 10 4 mi. sw. Matatlan, Oaxaca, Mexico

Birds ~~with~~ are occasionally found in denser oak scrub + several pairs seem to have territories in this type of vegetation, but in general they are on more open hillsides than either mystecalis or notosticta.





LLWORTH

1963

*Aimophila ruficeps*

Dec. 19 Zaisan Molino basin, 1000± ft., Sta Catalina Mts., Pinalo, Arizona

On rocky, oak-grassland hillsides - with scattered Prosopis, Yucca, + Rosa - found Rufous-crowns to be fairly common. Located birds mainly by "dear, dear" call, but also was able to "schuss" them in.

5 birds  
2 imm. collected

Collected one bird and within two minutes 4 others appeared in the same bush. They moved from the bush to talus slope just above + back to bush. Finally two flew off down canyon + two flew just up hillside where they continued foraging among rocks beneath a species of shrubby composite. Collected another, both ~~had~~ <sup>had</sup> incompletely ossified skulls.

When following mixed flock of sparrows later in morning found several other "pairs" of Rufous-crowns. Not sure of sex, but generally two birds were together. Heard 2 birds separated by 50 yards alternately give "dear, dear" call with long addition of extra staccato notes. Two birds sounded as if moving closer together, but I was unable to follow them + do not know outcome. It seemed to me that "pairs" were spaced along the stream course, but this may result from birds being hidden for periods of time.





LLWoff  
1963

*Amiophila ruficeps*

Dec. 19 If pairs were spaced then suggests permanent pair bond & winter territories.

Dec. 20 Molino Basin, Sta. Catalina Mts., Pima Co., Arizona.

Family group of 4-5 or fortuitous group - see journal.

Can  
reunion  
Calls heard today were "dear, dear." + "tzeet."  
Thought once heard a pair reunion duet, but could not find the birds. John Trammontano reported seeing a pair + hearing a duet just after they flew into a nearby bush. - not positive of details, identification probably valid.

Collected three birds - 2 immature (skull) males and an adult female.

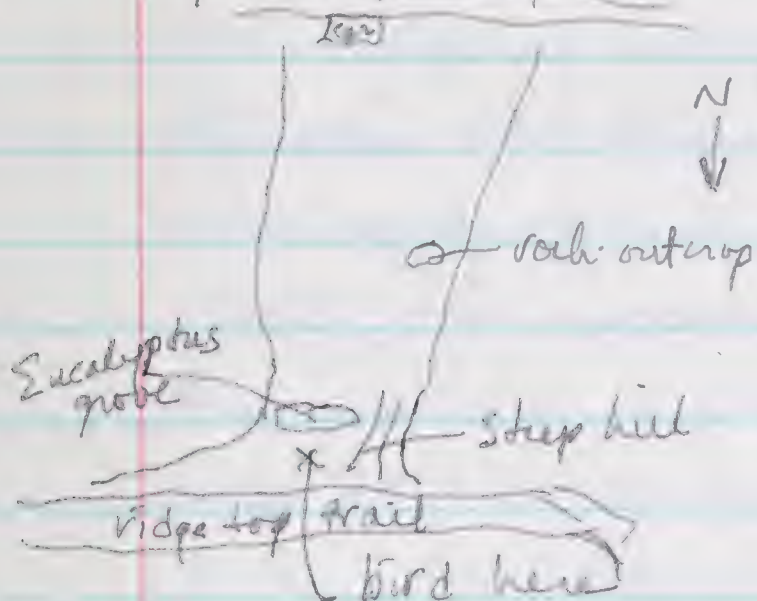




LLWorff  
1964

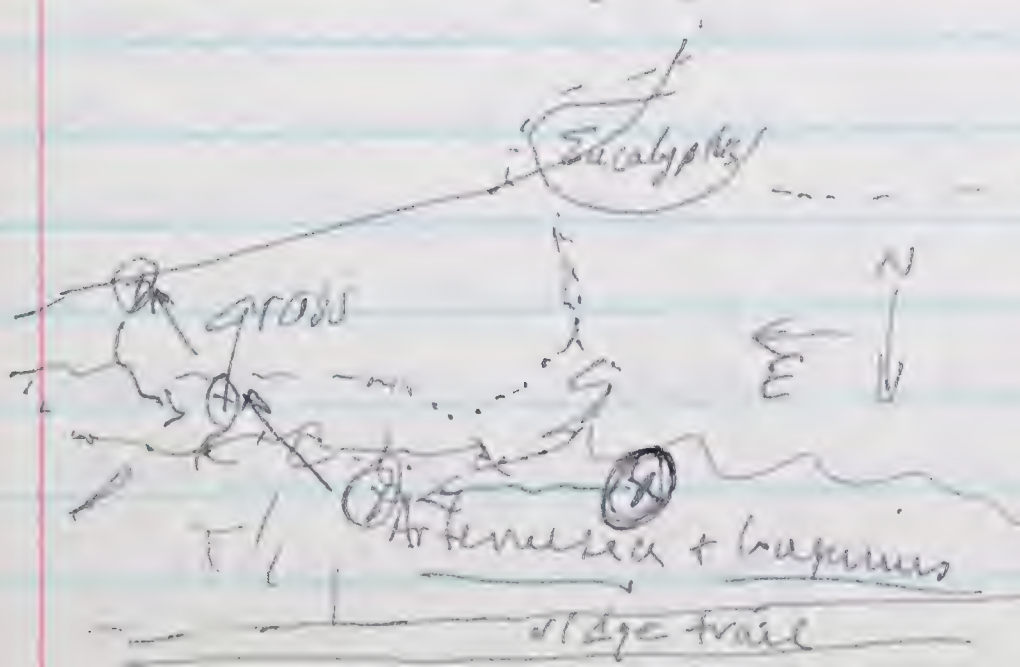
*Aimophila ruficeps*

March 15 Big Springs Canyon, Tilden Park, Contra Costa Co., Calif.



0945 - flight - the flew into bush Lupinus - 18" tall - from uphill. noted floppy tail flight + smaller size than Zonotrichia. Then flew parallel to slope to east for 10 yards + lit in 4 foot Baccharis in center on bare branches. Disappeared as I wrote notes. No vocalizations heard.

Area is <sup>scattered</sup> ~~covered~~ + small (up to 2 foot tall) Artemisia + Lupinus. Open areas are grassy or bare but are strewn + small rocks. Occasional 4-5 foot Baccharis. Angle of slope is 30°.







LL Wolf  
1964.

*Acrocephalus ruber*

March 15 (2)

1005 - flushed bird again from near base of small (8") Artemisia. Into Artemisia then downhill to another. Lit in center of bush. Worked to top giving teet notes (shar upwards). Gave one "dee" note + dove into lower parts of Artemisia. Then work back to top (28") giving teet notes. Then downhill to large (7') Baccharis, one of small clump in midst of grassy slope. Lit on bare branch 2' up + then disappeared. Can hear bird giving teet notes but not visible - may have been foraging. Toward seen in grass to SE of Baccharis clump.

1025 - flushed <sup>ruber</sup> again from Baccharis clump. Flew into lower branches of Baccharis - giving occasional teet notes - then nearly to ground & fly 5' to 2nd Baccharis. Then uphill to area of Artemisia from which bird had left. Disappeared. As I approached to 5-10 feet plus 15 feet further uphill giving occ. teets. Then flew again mostly parallel to hill + lit in outer branches of Baccharis about 6-8" above ground. Then dropped down to ground & disappeared going into thick center of Baccharis stand.

1035 - still in Bac stand. up to branch 2 feet up + then back to ground. Forage in shade (+ in cover) to SW. When reach each of Artemisia cover just below me. flew to W + lit ~~for~~ near where originally seen. Disappeared.





LL Wolf  
1964

*Aimophila subiceps*

March 15 (3)

As I approached (to c in feet) flew out to SW (downhill)  
to stand of Baccharis & disappeared. Length  
of area covered along slope is > 60 yards. uphill  
distance 20-30 yards.





LLWOF  
1964

Aimophila ruficeps

June 14

Molino Basin, E. Tucson, Pima Co., Arizona

Recorded single ♂ in early morning then collected it. (#2450). Bird moved especially on south hillside. Sang mostly from elevated perches - rocks, shrubs, mesquite. Generally 5-6' off ground. An mesquite was below middle of tree, but in exposed position.

Found at least three other pairs - two of which collected - in Molino Basin Campground. ♂♂ singing occasionally. ♀♀ with incubation patches. ♀♀ quiet & inconspicuous - probably incubating. Five collected pairs were foraging together on ground.

♂ recorded in early morning (6-7 AM) was singing rather consistently, but all vocalizations from this species really dropped off by 0730.

Birds are spread out on the hillside & grassy flats.



Wolf, L.H.

1963-1964

Aimophila rufescens





LL Wolf  
1963

*Himophila rufescens*

July 27 9 mi. SW. Aultan, Jalisco  
(see journal)

July 31 various localities ~ 10 mi. N Guadalajara, Jalisco.

oral / In open, legume-tree studded, grassy hillsides in Barranca de Oblatos found Rusty Sparrows to be fairly common. Spaced ♂♂ singing from elevated perches usually on dead limb, but often well below top of tree or bush. In general do not sing from top. Recorded songs of two ♂♂. In a more densely wooded area along stream bed down the hillside from these ♂♂ was a singing ♂ A. guineastriata. Only foraging seen was by hopping along ground.

Aug. 2 10 mi. SE. Morelia, Michoacan

habitat / forage / One flew up from ground in open oak-covered hillside, herb layer dense in patches. Lit on 2' stump then to another stump 5 feet away. Back to ground to forage along slope. Flew up into lower (6-8') branches of oak. Sat 1-2 feet from trunk where no leaves on branch. Preened in sun for 5+ minutes. Interrupted preening once to sing two continuous phrases of song. Back to ground & lost from view.

#2131- stomach c. pit, insects, spider, & probably veget. matter  
animal  $\approx$  75-80% of contents.





LLWolf  
1963

*Amphispiza rufescens*

August 2 20 mi. SE. Morelia, Michoacan, Mexico

Very little continuous singing by ♂♂. Usually at most 2-3 minutes. ♂♂ are spaced in oak woodland (open) + shrubby 2<sup>nd</sup> growth. Birds are worn. Saw no family groups or young birds, so apparently breeding is just beginning.

August 3 20 mi. SE. Morelia, Michoacan, Mexico

♂ on hill above camp sang long bout of songs at ~ 0630. By time I got up there recorder had quit. During wait saw bird fly in to oak about 20 feet up. Then cross to another oak + dive down into gully from whence immediately issued a chattering series similar to but less loud + less intense than pair reunion duet of Brown Towhees. Another time heard chattering call just over bank. As I approached pair of rufescens flew up from ground. Was able to follow birds + collect ♀ which has very edematous brood patch.

While recording a singing ♂ - probably same as bird in preceding paragraph - he flew to gully + I recorded immediately thereafter a chattering series. I would guess that it is a duet, but have yet to actually see the birds engaged in the chattering.

This same male was singing on the hillside when a series of chattering issued from gully. Immediately he stopped singing + flew over to trunk of gully just above site of chattering.





LLW 814  
1963

*Aimophila rufescens*

August 3

20 mi. SE Morelia, Michoacan - cont'd.

♂ I was following + recording never sang from top of oaks + only once was out in exposed position. Generally sang from  $\frac{1}{2}$  to  $\frac{2}{3}$  way up (15-30 feet) on bare limb in interior of tree. Often worked up from lower height before starting to sing. Just before ♀ was collected ♂ was sitting in exposed position on horizontal oak branch about 10 feet above ground.

Area covered by this ♂ was 100+ x 50+ yards. All cut-over oak woodland. Some small legumes have come in where oaks cut out. Grass 4-6 inches tall + in gully weeds + shrubs.

Collected another singing ♂ about <sup>15±</sup> feet up on dead ~~terminal~~ of a legume branch. Was markedly exposed to view.

Found a 2<sup>nd</sup> singing ♂ on opposite hill above camp. Sang persistently for 20± minutes. Recorded approx. 5 min. Then down to ground to forage. Move by hopping on ground. Foraged mostly in areas with no canopy. Ground layer was 2-6 inches tall + included both grasses + dicots. Bird foraged by hopping along + picking at ground or low vegetation. Occasionally worked around base of shrub. Once watched him chase bug of some sort for ~ 8" before catching. Caught a 1"± caterpillar which was beaten on rock + mandibulated only once thru mouth before being swallowed.





LWOLF  
1963

*Aimophila rufescens*

August 3

20 mi. SE. Moulia, Michoacan

Sing 1

Sang occasionally from ground. Often would sing 3-4 songs in succession & then be silent for extended period.

Several times saw bird making backward hopping motions & saw us move backward. Looked as if foraging like a Brown Towhee, but bird was always partly obscured by vegetation & could not tell for sure.

When flying up from ground into shrub nearby flight was very floppy in manner of Song Sparrow perhaps even more exaggerated especially pumping of the tail. When it flew after I tried to collect flight was direct with no flop. As went downhill went into long straight glide with wings horizontal & tail slightly spread.

Area on this slope is less open & much of regrowth where oaks removed are oak seedlings. Some legumes & other shrubs. Shrubs & trees make 50-75% closed canopy, but neither more is > 50%. A few pines scattered on hillside.

I think this second bird watched is an unmated ♂ - much more singing than other ♂♂ & no silent or any other of this species seen in immediate area.





HLWoff

1963

*Aimophila rufescens*

August 5

8 mi. N. Cuernavaca, Morelos, Mexico

♂ recorded used 8 foot stub, dead limbs ranging from 10-30+ feet above ground. also live pine limb ~ 35 feet up near trunk. Sang a few songs while mostly hidden in oak foliage. Generally uses oaks but will use pines.

♂♂ heard were spaced 100+ yards apart. When recording heard what was probably the reunion call of rufescens just after ♂ flew into bush on ground. Did not see either bird emerge.

August 7

9 mi. SE. Izucar de Matamoros, Puebla.

Surprised to find this species in essentially thorn forest vegetation. There were some scattered scrub oaks but they were not very common. ♂♂ were singing - one collected from dead branch near top of 25 foot tree on rocky hillside with ~ 50% herb layer cover some of which was grass. One probable ♀ seen, but none collected.

August 11

11 mi. SW. Matatlan, Oaxaca, Mexico km. 608

heard 2 singing ♂♂ + found one pair on oak-studded hillside. Parts of hills were thorn scrub, especially close to road, but Rusty Sparrows were in most oak-woodland.





LL Wolf  
1964

*Amphispiza bilineata*

July 14 Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico

♂-♂  
Heard ♂ sing on hillside. Answered by 2<sup>nd</sup> ♂ further uphill. When I "shushed" ♂ came up from ground into dead shrub ~ 1 foot above ground & sang twice. Another bird 10' away up into lower limbs of nearby tree. Dropped back to ground. Slightly closer to ♂. ♂ over & dropped to ground also. Heard "squel." Probably on ground. ♂ then began singing from near or on ground & moved off uphill. Area is edge of grove of 12-18' trees of mottled appearance of oaks but not oaks. Understory with some shrubs & some trees. Herb layer of grass & weeds - continuous except where rocks at surface. There are few oaks scattered thruout.

July 27 Cañon de Lobos, 9 mi. E. Guernavaca, Morelos, Mexico

one sang loudly from lower limit of oaks on NE facing slope. then flew straight downhill for 150± yds. onto lower (7 foot±) dead branches in shrubby 4<sup>th</sup> growth area where *A. humeralis* occurs. Immediately flew off to SE - presumably into shrubs but may have gone back uphill. This is lowest on the slope that I have recorded them & is below the oaks.

August 2 22 mi. S Chilpancingo, 2400± ft., Guerrero, Mexico.

Stopped in area of mixed pine-oak - pine predominating, many less than 20 feet tall. Scattered shrubs & nearly continuous canopy of 18-24" grasses. Adult came up from grass as I schussed 20± yds away. Lit on dead pine branches on ground with wings spread & lowered & tail gave same chip notes as ran along branches in this fashion. There





LL Wolf  
#64

*Aimophila rufescens*

August 2 22 mi S. Chilpancingo, 2400± ft., Guerrero, Mexico

off to grass where moved slowly thru grass below canopy.  
Chip notes louder as moved off. Collected. no brood patch.

Have heard 2 pairs give squal direct as see them come together. Once 15 feet up near top of pine + once in 6 foot oak. Unable to collect either pair.

August 3 5 mi. E. Cuernavaca, Morelos, Mexico

0645 - ♂ sang then one of pair #1 across road where sat  $\frac{2}{3}$  way up in 10 foot tree "churring" - long + softly. other bird flew in to lower in same tree + gave reunion squal - other bird (1st) continued to give churring noise so only one giving squal.

0655 - ♂ sang from W side of road + another adult flew in from E. heard "squal" but couldn't see either bird. one + then other back to E side of road chipping. one finally worked to shrub clump 5± yds to N. while other moved thru canopy of tree nearby chipping softly. ♂ sang 3 times in succession off to SE 75± yds + then heard squal. bird in tree gradually worked down to lowest branches in tree (2± ft. up) + dropped to ground - chipping ceased. foraged in short herb layer vegetation, but with dead + live weed stalks 3± feet high forming almost continuous layer. A Melospiza cinerea worked thru on ground + up to 6± inches in shrubs near Aimophila. Was not chased + finally flew off to NE.

0720 - ♂ sang twice in succession directly E.

0725 - juv. hopped up onto dead weed stalks + chipped. Appeared to have tail about  $\frac{3}{4}$  grown.





LL Wolf  
1964

*Amorphila rufescens*


August 3 5 mi. E. Cuernavaca, Morelos, Mexico

0850 - flushed adult from grass + weeds on small lava outcrop. Flew into shrub + weed thicket where sat on various bare limbs 2-3 feet up.

Joined by another bird which worked across outcrop by staying in weeds or dropping behind protruding rock. 2<sup>nd</sup> bird in dropped to ground + moved by hops along ground soon after arriving.

0910 - another pair. flushed bird (adult) from dense weeds at edge of shrub thicket. flew up to dead broken-off branch 8 feet up where swallowed whitish-looking object (fecal sac?). As I walked in another adult flushed + joined 1<sup>st</sup> which had since flown to SW. 20+ yds at least one began "churring" sound which continued for 2-3 minutes while I checked area for nest (no luck). occasional chip notes from another bird. May be feeding fledgling(s).

0945 - adult (prob. ♂) came in to "schuss" + began giving chur, but rather than run together in long series gave as individual notes + longer than continuous chur. then moved off in thicket (closed canopy) of shrubs where a bird began singing.

1025 - while walking back along gravel (lava) road flushed several pairs from roadway. One pair moved up into subcanopy of tree (25+ feet tall) 10+ yds from road. One then worked out thru canopy to dead branches just above road where sat chipping. rocking forward + back - mostly by raising + lowering head + tail. <sup>brown</sup> ~~cast~~ feathers partly up. changing ~~pos~~ directions on perch thru 20° ±.  then dropped down to other side of road. other bird (♂) began singing from low in shrubs below tree + then hopped out onto road. hopped across road, several times stopping to pick at ground (prob. faecal). stayed at edge of grass





LLWolt  
1964

*Amphispiza rufescens*

August 3 5 mi. E. Cuernavaca, Morelos, Mexico

on other side of road while ♂ Vireo Bunting flew down to pick up grit. No antagonism although rufescens only 15± inches away + looking in direction of bunting.  
1038 - bird flew from tree side of road (may have earlier gone back) + heard squalling sound like young being fed. Adults moved away from road to E + ♂ sang. Still singing at 10<sup>52</sup> when I left.

August 4 5 mi. E. Cuernavaca, Morelos, Mexico 5900± ft.

0600 - found same group of three as watched early yesterday (2 ad + 1 yp.) recorded 2 ~~ch~~ squal reactions - each time occurred as one bird was chirping + then squal. still not sure if one or both participate. 2<sup>nd</sup> squal occurred on or near ground + at least one adult then foraged off on ground in area at edge of woods where only vegetation was short, grazed herb layer. played back a churr series followed by squal + 2 birds flew up into nearby tree where squalled. then flew 15± yds to another tree where worked in canopy changing positions rapidly. after working to near top (15-20 feet up) one then other dropped abruptly to ground + foraged on ground. one then worked up onto dead, nearly horizontal limb 7 feet up + preened breast then flew off to NE. where ♂ began singing. another ♂ (75± yds. to S) sang three consecutive songs while 1<sup>st</sup> ♂ was singing. I played back the squal again + two birds flew into shrub thicket 30± yds away + squal. then changed positions slightly + another squal.

0725 - another pair - ♂ singing from tree (25 feet up) in area of 75%± closed canopy shrub thicket. ♀ (other adult) moved up into dead lower





LL Wolf  
1964

*Amphispiza bilineata*

August 4 San E. Cuernavaca, Morelos, Mexico 5900 ± ft.

branches of a nearby 8' shrub and began churring. ♂ flew over + churring ceased. Both in shrub together then ♂ moved off to NW while ♀ remained. ♂ began singing - varying volume + sometimes sounded 75+ yds. away while actually only 25-30 yds. Singing from low perch, but not visible. ♀ remains quietly on perch + then begins preening. moves to subcanopy of tree from which ♂ (1<sup>st</sup>) singing then works up into canopy layer + disappears (0735).

0755 - flushed another pair up from ground. at least one foraging in open grassy area with herb layer 2-4 inches tall. flushed into nearby shrub thicket + gradually worked over + up into canopy of 25 foot tree in the thicket. one sat on dead limb raising + lowering tail - in line with + above body axis. crown feathers mostly partly erected. legs nearly fully extended so bird well above perch. also move body thru 20° ± in horizontal. also seems to have neck partly extended beyond normal position when perched with tail + body forming a straight line.

0801 - one flew across road to tree. 2<sup>nd</sup> soon (10-15 sec) followed giving chirp as flew across. then squeal "duet".

0810 - have heard ~~several~~ <sup>two</sup> more squeal "duets" from this pair but can't see either bird. ♂ sang two songs at 0808.

0825 - same pair dropped to ground + foraged along nearly bare path at edge of shrubby growth. moved by hopping - pecked at ground several times. one moved on trail to water puddle in road + flushed from edge.

0933 - (same pair) - heard churring noise of same type from at least 2 separate birds. then squeal while one continued to chirp. short song by ♂ + another short song at 0935.





LLWOIF  
1964

*Amphispiza nutescens*

August 4 5 mi. E. Cuernavaca, Morelos, Mexico

squeal  
0942 - (seen pair) heard loud squeals from undergrowth. sounded as if more than 2 birds. then heard squeal closer to road which was joined by a 2<sup>nd</sup> squealing bird - squeal duet - both seemed to contribute the same sound. one then flew across road to SE. in 30± sec. another bird followed. then heard squeal 50-55 yds to road so this may have been territorial dispute between 2 pair.

0950 - series of three consecutive songs from ♂ just NW of road.

1027 - adult (saw full grown young in juvenile plumage) ate something while foraging along dead branches lying on ground. bird wiped on branch. flew up onto bare, nearly horizontal branch 10 feet up + bird wiped again. ♂ sang 20-25 feet away. this adult flew off + heard squeal. (prob. ♂ + ♀)

1038 - ♂ sang three consecutive songs. then quiet.

1046 - ♂ sang three consecutive loud songs from 30± yds. NW of road. then quiet.

August 6 5 mi. N. Cuernavaca, 7000± ft., Morelos, Mexico

flight  
chew  
sing in flight  
bird (♂) came up from on ground when I squeaked. worked up into bare upper branches of 7 foot oak. then flew to bare lower branches (10' up) of nearby pine. flight floppy with much pumping of tail. worked thru lower branches + then flew to other pine 30+ yds. downhill. Again tail-pumping flight. then dropped to ground (or near ground). another pair of birds moved across hill near pine tree just vacated by this ♂. giving churring notes + then squeal as this ♂ flew uphill. Sang two short songs in flight just over tops of shrubs (5-6' up) + then dropped to ground. At least two birds then continued on uphill where heard another squeal.





Lh Wolf  
1964

*Amophila rufescens*

August 6

5 mi. N. Cuernavaca, 7000 $\pm$  ft., Morelos, Mexico

Area is pine-oak woodland with pines up to 75 ft. tall. In many places trees form almost closed canopy. Shrub layer is scattered + mostly of young oaks + one other species of shrub. Herb layer is scattered grasses + annuals - ground carpeted with pine needles.

August 7

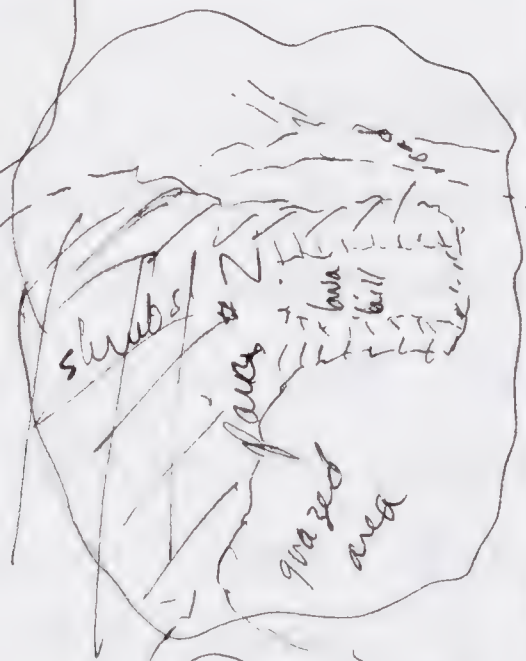
5 mi E. Cuernavaca, 5900 $\pm$  ft., Morelos, Mexico

0600 -  $\sigma$  singing as he foraged along ground in area where trees & shrubs removed for electric lines. Hopped + short flights to progress thru 4-8 inch herb layer vegetation. Occasionally perched on dead weed stems (horizontal) while changing foraging positions. Worked between 2 patches of 7 $\pm$  foot weeds, but stayed in open areas. Flew 5 $\pm$  yds to W. + dropped to ground. As I approached one followed by 2nd flew up into shrub thicket where gave churring calls - sounded like both birds were calling. Then quiet with occasional churs. As I changed positions to see cleared area one flew up from cleared area into shrub thicket 5 $\pm$  yds to W. both then slightly further to W + onto dead, horizontal tree branch 2 $\pm$  feet off ground. One dropped lower to ground + flew off to W. Other stayed up + gave tail + wing-flicking with head raising movements. Then flew to W.  $\sigma$  then worked up into dead shrub where sang from exposed perch 5 $\pm$  ft. above ground. Again before he flew went thru wing + tail flicks with head raising. Head is raised when tail raised + wings flicked. Then moved off again to W. which I followed (or pushed) thru the pair moved 100 $\pm$  yds to W along cleared area beneath electric lines. Except for when  $\sigma$  was singing they seemed to function as a pair +



pair #5

2



Road

pair #3

pair #4

pair #1

LL Wolf  
1964

*Amoxthila rufescens*

August 7 5 mi. E. Cuernavaca, 5400± ft., Morelos, Mexico

both generally flew up together & stayed close together while I could see them. lost track of them at 0625. All foraging seen done on, or < 6-8 inches, above ground. Occasionally flew up & seemed to pick at weed foliage, but may have been changing positions in deeper herb layer than usual or crossing some obstacle. Never saw more than 2 birds together.

0625-0730 - heard <sup>another</sup> pair squeal from edge of shrub thicket on N. side of road (pair #2). then quiet followed by another squeal. Both then foraged up lava outcrop into thicket (away from road). ♂ singing from on or near ground as forage. heard chir notes from one of pair #5 & ♀ of pair #2 moved up into subcanopy of trees & moved off in that direction. ♂ truder must have left as ♂2 moved up onto horizontal bare limbs 10± feet above ground & sang several times. ♀ then flew to W side of lava hill & squeal after ♂ flew over to same area. I moved over there & found both birds foraging in 2-6 inch herb layer vegetation - mostly grass & grazed by cattle. moved back closer to shrub thicket & foraged where herb layer mostly of weeds & up to 8± inches tall. Move mostly on ground, but do go up onto lava rocks & shrub branches. Pecked usually at ground, but occasionally also at leaves & flowers of weeds. Often had to reach or flutter up to peck. Several times seemed to peck at leaf as fluttered down off lava rock or branch of shrub. Once bird moved rapidly thru basal interior of a 3 foot shrub. Did not seem to forage, but just hopped thru. Then back out into weeds. several squeal performances as pair came flying together after being separated by > 100± feet while foraging.





LL Wolf  
1964

*Aimophila rufescens*

August 7 5 mi. E. Cuernavaca, 5900± ft., Moulas, Mexico

♀ up onto dead branch 6± inches off ground where perched. ♂ worked toward lava hill in foraging. ♀ then up into tree to see possibly in response to chirp notes from that area. Worked into top of tree (30± feet) where sat wing + tail flicking, changing directions + pitches, + head raising. ♂ flew up into small tree (6' up) at wedge of lava hill + ♀ gave squeal although 2 are separated by 50± yds. ♂ did not squeal but changed trees, moved up slightly higher, + sang. ♀ dropped down to shrub beneath tree where moved about nervously (wing-tail-head flicks) then into 8 foot shrub 10± yds closer to lava hill where moved about nervously then sat perching. ♂ had dropped to ground + moved by short flights + hops along wedge of lava hill then flew over to shrub where ♀ sat. landed 3± feet below ♀ + squealed. ♀ rapidly changed directions on perch twice thru 180° accompanied by alternate bouts of flicking vigorously right, then left, right, left wings. also spread + contracted tail. ♀ did not seem to be contributing to squeal. ♂ then moved up to just below ♀ + another squeal. this time ♀ turned + bent slightly down to face ♂ + spread tail. wing flicking very reduced + ♀ again did not seem to squeal. unable to see if ♂ wing-flicking but as he is in interior of bush I doubt it. After sitting quietly for short time both birds fly over to ground 10± yds. to N. where squeal on arrival, both squealling.

Hear chir notes from one of pair #4 + one of pair #2 moving in that direction. Then chir notes from pair #5 + pair #2 flies to them + hear squeal. Pair #2 then continues toward road along





LL Wolf

1964

*Amphispiza rufescens*

August 7

5 mi E. Cuernavaca, 5900± ft., Moutos, Mexico

west edge of lava hill. ♂ leads + sings several times when near road. joined by ♀ + squeal. then move to east side of hill + more squeals + chirping. seems to be response to chir notes coming from one of pair #5 near boundary. then quiet.

0900 - watched a Melospiza cinerea forage thru weeds at NW edge of Terr. #2. Moved + foraged in same manner as rufescens.

0903 - ♂ 1 began singing - when I found him was on ~~the~~ bare limb close to trunk of 10 foot tree. - ~  $\frac{2}{3}$  way up + in shade. ♀ foraging on ground in weeds around patch of 7± foot shrubs. ♂ flew to S + ♀ came up from ground + went to S. beyond ♂ then both disappeared.

0910 - moved  $\frac{1}{4}$  mile SW. down road. found at least two pairs of rufescens. one came from across road to N. + squealed as landed in shrub at base of tree. Both flew 4-5 feet farther + squeal again. Repeated again. Then one dropped to ground + began foraging while other moved into shrub thicket. After 3± min. one followed by 2<sup>nd</sup> flew across road to N - one landing in canopy of a 20 foot ± tree ~  $\frac{1}{3}$  way up. Other in 4± foot shrub just below - no squeal.

Squeal of another pair 40± yds. to SW so moved over there. found them foraging on or near ground. one up into 15-20 foot tree where foraged in canopy. Moved from leaf clump to leaf clump acting like a vireo. then moved closer to road (squeal after landing) when one foraged in weeds + low branches of shrub while other sat on exposed perch (dead horizontal branch). Occasional nervous movements. Exposed bird then flew down to join other + both foraged toward road.





LLWOLF  
1969

*Aimophila rufescens*

August 7 5 mi. E. Guernavaca, 5900±ft., Morelos, Mexico.

then back to shrubs + ~~chatter~~<sup>squeal</sup>. foraged from stems + branches just above ground + then flew into tree + shrub grove (cloud canopy) along lava fence. Squal then move thru subcanopy region to see one more squal in tree grove then (0957) ♂ singing from bare branch (near end) at end of grove. near top of 10 foot tree.

<sup>A</sup> songs --- ~ + --- ~ ---.

A, B, A, B, A, B, B, B, A, B, ---, B, ---, ---, B, -, A, A, B, -, B, ---, A, ---, B, -, B, ---, B, ---, -, B, -, B, ---, B, A, B, ---, B, B then flew off to NW where sang three successive songs. then back to tree ~~thicket~~<sup>grove</sup> where sang from dead top of 25 foot tree then down to 5-6 feet up in tree grove where chir notes then squeal - another squeal from 20± yds. to NE. Sounded like or joined another bird and 2<sup>nd</sup> Squeal was by a member of another pair.

1010 - same pair. heard squeal from end of tree grove. then three birds flew into grove ~ 5 feet up. squeal again + moved to S farther with another squeal. Then all three move to W side of grove into field. One then up into bare branches of 10 foot tree where sing. hear squeal from ground vegetation below tree + bird in tree begins wing + tail flicking then in several fluttering flights drops to ground when squeal continues - sounds then like two birds. I move over + birds begin chipping excitedly from ground + to 6 feet up. Usually on ~~dead~~<sup>bare</sup> branches when in trees but does move thru foliage. ♂ moves to S. end of grove + begins singing. ♀ continues moving in tree + shrubs chipping excitedly + with occasional chir notes - soft. ♂ moves in also then cool scales both way.





LLWOF  
1964

Aimophila rufescens

August 7 5 mi. E. Cuernavaca 5900' H. Morales Mexico

1036. ♂ back to tree (subcanopy) 10 ± feet from me where sings several loud songs. I moved thru tree + back both birds churring. Then (1037) both move off toward N end of grove.

both then work back on ground toward me. ♂ begins loud  
churring from W side of fence + moves N where joined by ♀. both  
fly N where ♂ sings two successive songs + then squeal back  
to 15± feet N of me where squeal. then ♂ drops to ground + hops  
rapidly in semicircle around me thru herb layer. other bird to  
shrubs 10± yds to E. both churring excitedly + chipping.

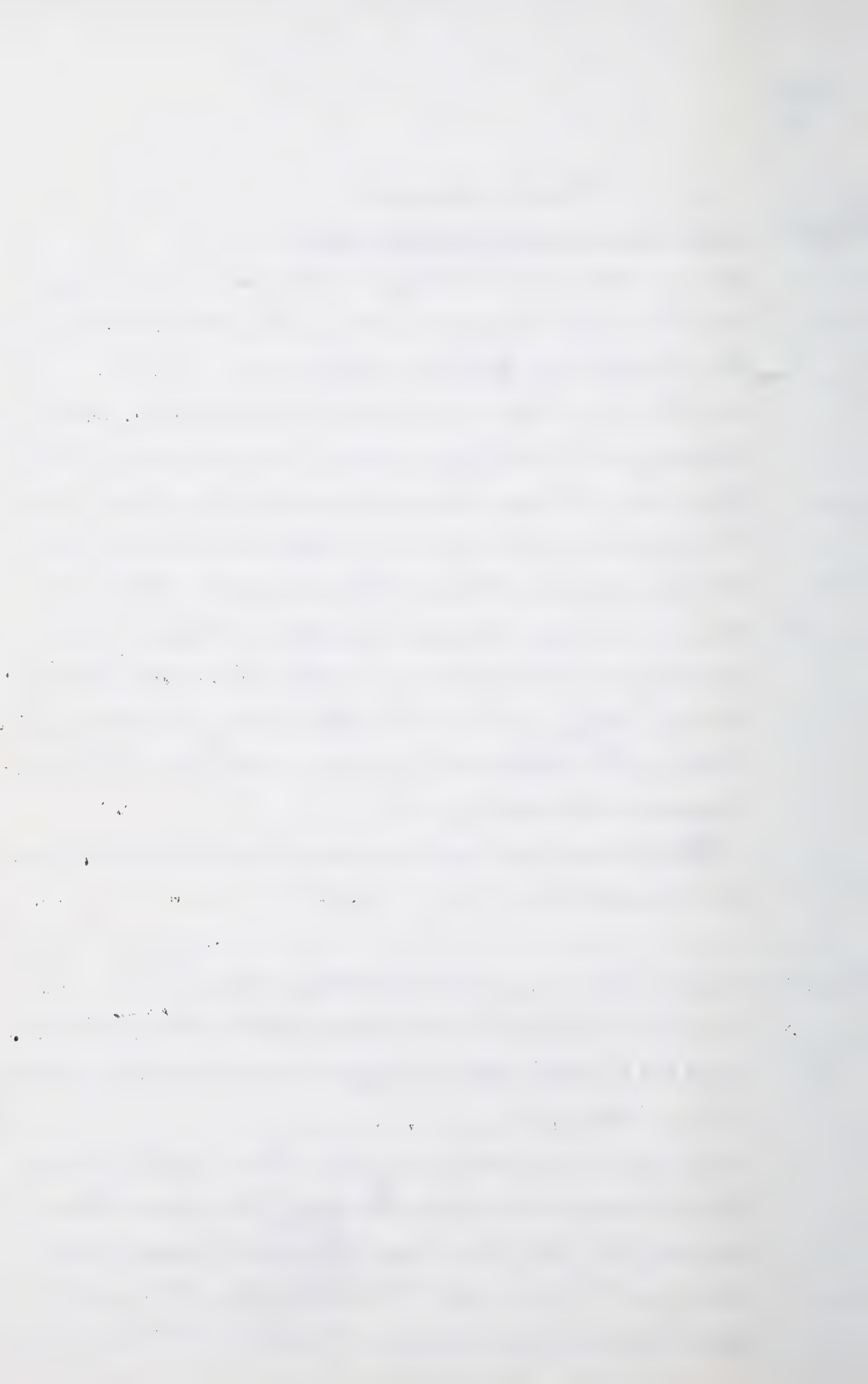
1048- ♂ finally moves off to S. end of grove where singer. now sure that bird coming in closest is the ♀. Also one doing most churring + chipping. When I moved to look for young one adult gave short portion of squeal as others moved off to N.

This attraction must have been a young bird that moved in here with the parents & then died. pair #6

August 8 5 mi. E. Cuernavaca, 5900± ft., Morelos, Mexico

[illegible]

0.625- found ♂ 1 perched on top of dead Agave (2 ft up) singing in cleared area under electric lines. went thru nervous motions - head, wing, tail flicking then dropped to ground + foraged thru weeds + grass 4-8" tall. Sang 3 times from ground. Then as ♀ foraged toward him flew up into bare branches of 9 foot tree where





LL Whit  
1969

*Aimophila rufescens*

August 8 5 mi. E. Cuernavaca, 5900 ± ft., Morelos, Mexico

sang several times then moved 5 ± yds to S to 12 foot tree.  
Sang once from N side then moved to S side on bare branch.  
Sang B type songs for 4-5 minutes. - average 1 song / 5 sec.  
while ♀ foraged on ground thru weed patch area (4-8 inches tall)  
with scattered shrubs.

0637 - ♂ flew over (25-30 pbs to NW) + heard squeal. Sounded  
as if one bird contributed most to squeal.

All this shortly after early morning rain stopped.

0645 - ♂ 1 sang twice from 40 ± yds to W of where squealed.  
then to ground to forage among 6 ± inch weeds + grass. used some  
dead, fallen weed stalks as perches just above ground while around  
base of shrub. up into tree where sang once after ♂ across road  
(♂ 2?) sang twice. followed by squeal of pair 4 + ♂ 1 also squealed.  
flicked left wing slightly during squeal + moved up to top of 15 foot tree.  
♀ presumably on or near ground foraging + did not participate.  
♂ then flew SW to join ♀ + both next seen 4 ± feet up in lower  
branches of tree. ♂ then moved up to top of 20 ± foot tree 30 ±  
yds. to W. pair 4 squealed + foraged in grazed, weedy area across  
road. one worked completely around a 2 foot dia (2 foot tall) weed  
clump but did not go inside.

0706 - pair 1 squealed after pair 4 had flown off to NW away  
from road. pair 4 then back down to road where at least one  
began churring from bare limb near top of 20 foot tree. flew 5 ± yds  
E to top of next tree where continued churring. + (0709) ~~begin~~ sings two  
soft songs + then continues churring. flight floppy with tail pumping.





HL Wolf  
1964

*Amophila rufescens*

August 8 5 mi. E. Cuernavaca, 5900± ft., Moutos, Mexico

0709.5 - more whisper songs. then ♂ off to E giving chur.

0714 - one of pair ♀ worked - churning - to top of 6 foot dead weed stalk where continued to chur then drop to ground.

0718 - one of pair ♀ to top of another weed stalk churning then flew off to E. where heard several introductory churning-like notes & then a squeal.

0720 - pair ♂ squealed as flew into interior (near top) of 20 foot tree when moving to E. then ♂ to next tree (20± yds to E.) while ♀ to ground 30± yds to E. ♂ sang several times then flew off to E where sang more - quiet at 0725. meanwhile one of pair ♀ into tree (lower branches 7-8 feet up) where sat quietly. other member of pair began soft churning-like sound (same as previous introduction to squeal) bird from tree then flew back to that one (to on bare ground 15± yds to W) giving chur in flight then squeal.

0730 - 0737 - ♂ sitting near top of 3 foot weed stalk singing moves 10± yds to S (away from road) & sits on horizontal branch 18± inches above ground singing. sang only type B song. then flew off to SW in floppy-tail pump flight where heard bird giving 3-4 notes. then began to rain.

0804 - 0808 - ♂ singing from low in 7 foot shrub as rain stops. singing Type B song. then moves to S (30± yds) where begins singing again.

0833 - found ♂ 4 singing in top of 25 foot ± tree 50± yds N of road near edge of fir. 2. type B song + type C - which is ---. two were usually attenuated as last four songs transcribed on next page show.





LH Wolf  
1964

*Amorphila vatescens*

August 8

5 mi. E. Cuernavaca, Morelos, Mexico

B, C, B, C, dropped to ground when foraged in 2-4 inch weeds along old road which is grazed down by livestock. ♀ also foraging there. move off road slightly + forage around bases of weed clumps. ♂ seemed to be mostly picking at tops of weeds - most of which now are in seed. occasionally picks at ground. flies off to NW where sings rather soft songs. ♀ flies up into tree when ♂ first singing then to tree (25') 15± yds. to SW. then farther to SW + out of sight. Squeal on arrival. Churring as I approach then quiet.

0843- hear several drawn out tzeeee notes + then squeal sounds like two birds participating, but I think one bird is responsible for loud squeal + other for only short accompanying notes. then few chur notes + quiet.

0905- moved down road to area of pair #6. found birds near S end of tree grove along lava fence. Both flew up into lower branches of trees - ♂ sang type B<sup>(10-15)</sup> song + then flew over to join ♀ - no squeal. Both together on bare, nearly horizontal limbs then flew to next tree to W. one follows other + again no squeal. ♂ then moves to top of tree (25') 20± yds to NE where sings type B song until 0913. Flies to SW toward ground + hear squeal - definitely 2 birds this time.

0917- ♂<sup>6</sup> in top of 20 foot tree singing type B song - 1/4 sec. for 105± sec. then flies over to NE to top of 25' tree where sang several times then floppy flight farther to NE + to near base of tree.

0920 - heard chur notes + sw from where ♂ came. then from near base of tree at which ♂ disappeared heard outburst of chur notes + songs. then two birds flew toward me (to SE) one following 2<sup>nd</sup> feet behind other. one singing + other churring in flight. both landed on dead limbs of nearby tree of the





LCW 01f  
1964

*Amphispiza rufescens*

August 8

5 mi. E. Cuernavaca, 5900 ± ft., Moutos, Mexico

flight of 30+ yds. then one dropped to ground followed by 2<sup>nd</sup>. one hopped rapidly along ground with wings held slightly out from body & tail spread. other bird followed with occasional short, hopping flights to land right next to lead bird. one giving chee notes & other singing occasionally. disappeared from view & then heard squeal.

0930. found two birds working thru trees (up to 1/2 up tree) back toward tree grove. joined by a 3<sup>rd</sup> bird which was chased several times for short distances. birds worked thru canopy & subcanopy of trees at S end of grove. 3<sup>rd</sup> bird is a Melospiza kuni. One came toward a rufescens & lit on bare limb 1 ± foot below rufescens.

rufescens immediately flew down & displaced Melospiza from perch. All three birds moved off thru trees (from 2/3 to top).

0933. ♂ to top of 20 foot tree at SW edge of grove. Singing type B.

0938. ♂ 7 begins singing across road & ♂ 6 flies to NW to 25 foot tree where counter-sings. Begins several songs with a sharp tick note.

0942. ♂ 6 leaves tree & goes to SW.

0944. ♂ 7 still singing & hear chee notes from SW of grove & then squeal by pair 6 - not sure if both sexes participated.

0946. ♂ 6 sings two consecutive songs from top of tree at SW edge of grove (tree #1) & then flies down to 8 ± feet above ground to NW when squeal. ♂ 7 still singing.

0950-0954. ♂ 6 up counter-singing with ♂ 7. probably only 8-10 feet above ground.

0955. I walk over to investigate & ♂ begins chee & moves up to near top of





LLWOLF  
1969

*Aimophila rufescens*

August 8

5 mi. E. Cuernavaca, 5900 ± ft., Morelos, Mexico

20 ± foot tree where begins singing. ♀ on lava fence & then drops to ground on SE side. works on ground in & around shrub thicket while ♂ sings.

1000 - up to 5 ± foot lower branches of tree just across fence. ♂ flies down & squeal. ♂ facing ♀ & flicking left wing vigorously. then both to ground

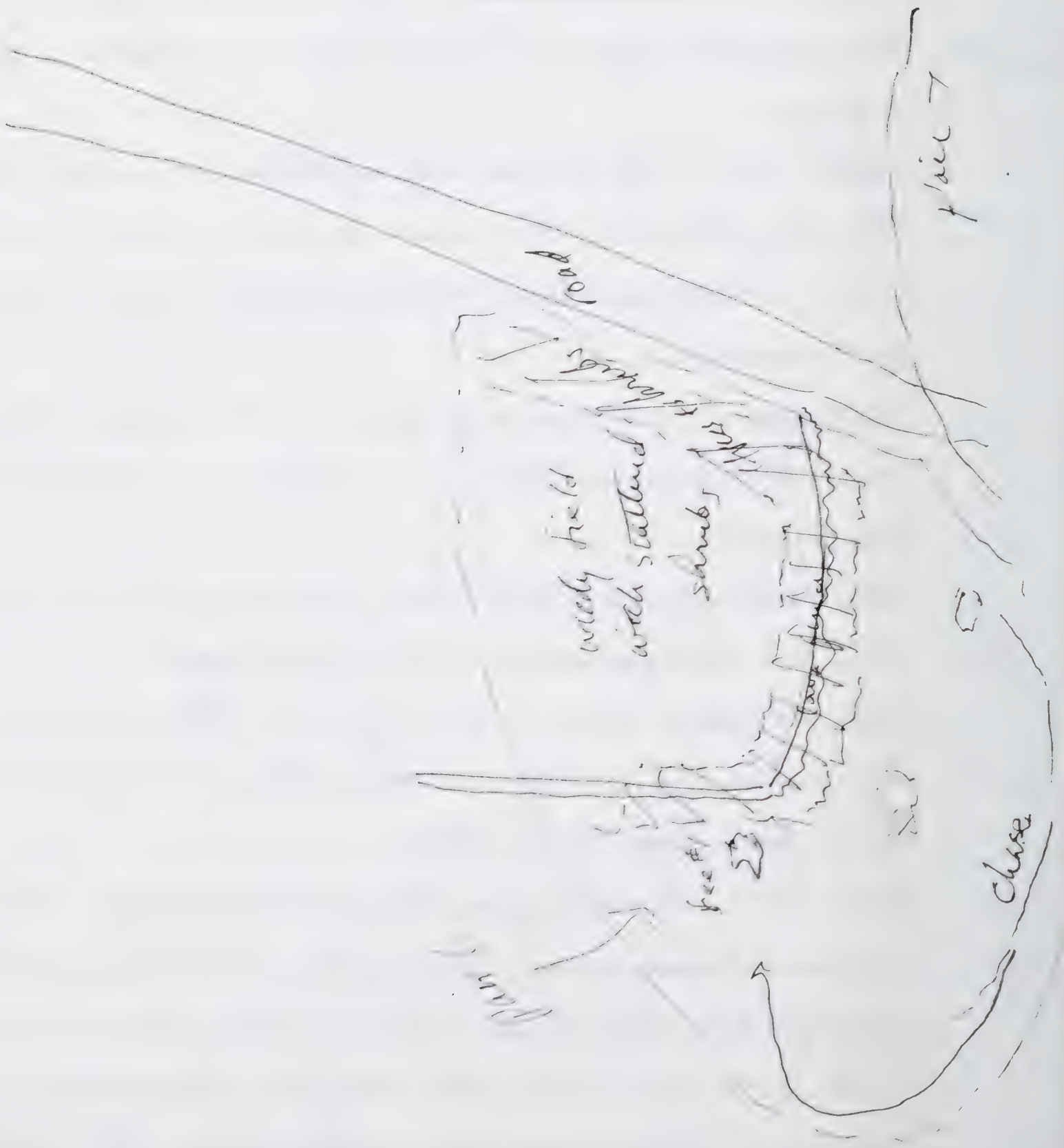
~~1002~~ 1002 - ♂ 6 up into main notch of 6 foot shrub when sings. then (20 sec later) flies 5 ± yds. to SW when squeals. ♀ appears 4 ± feet to SW & below ♂ (who is 5-6 feet up on horizontal branch - near end). She flies to NE followed by ♂ & squeal.

1005 - squeal - both sexes participating & then squeals at 1006 & 1007.5. After last squeal note one bird 3-4 feet up in small shrub & then drops to ground.

1009 - squeal by pair 6 - were hidden from view in shrub thicket. then chun starts followed at 1010 by long dent squeal.

1013 - pair 6 churning - 1015 - squeal. followed by more churning. then another squeal at 1016. churning stopped at 1018 & was followed by 2 squeals given 5-10 sec. apart.

0925 - 0941 - ♂ singing from canopy of tree 6 ± feet up. then drops to ground & continues to sing - less frequently - while foraging thru weeds up to 2 feet tall. moves up into small shrub where sings several times & then drops back to ground near lava fence. hear start of squeal off to W & ♂ flies over singing once just after arriving. Hear churning & another ♂ singing followed by what sounds like a chase. then ♂ 6 comes to edge of thicket & sings hidden in foliage. then flies to SE to tree (8' tall)





LL501F  
1964

*Amphispiza rufescens*

August 8

5 mi. E. Cuernavaca, 5900± ft., Moulas, Mexico

in field west of fence. works from 2+ feet up to near top - singing as goes up then sings from exposed perch (type B song), but shaded by top leaves. Flies <sup>15±</sup> 20± yds. to NW + drops to dead limb lying 1± foot above ground. works along this then drops into weeds.

Back onto limb then back to ground where forages + sings.

flies up + over to edge of shrub thicket where squats. no sign of ♀. then works to ground + forages silently.

1050 - sings 2 loud, <sup>successive</sup> ~~continuous~~ songs. then quiet.

1051.5 - singing infrequently + softly from 1-2 feet above ground in small shrub in field west of fence.

1055 - ♂ b up into lower branches where hear squeal - still no sign of ♀. ♂ then out into field 10± yds. to small shrub where gives short squeal + flicks left wing for 5± sec. then sits quietly. ♂ begins to sing to SW + ♂ b flies off to other side of field (to S.) + sings several times. ♀ comes up from ground on N side of field into lower branches of tree + works to 3-4 feet above ground.

♂ immediately flies over + squeal ensues. can only see ♀ + she flicks right wing for 5± sec. not sure if she squeals. Both birds then forage in tree (among), until ♂ to SW begins to sing again + ♂ b flies again to other side of field + counter-sings. Two ♂♂ sing different songs. ♀ continues to forage in tree foliage working to top at 15± feet several times. Then turns goes into same tree target at top + seems to pull at same item each time. Then in 10± yds flight to E (tail depressed) goes to next tree + disappears in foliage 15± feet above ground. ♂ silent by 1109.





LLW014  
1964

*Aimophila rufescens*

August 8

5 mi. E. Cuernavaca, 5900 ± ft., Morelos, Mexico

1115 - ♂ 6 singing at SW edge of fence.  $\frac{2}{3}$  way up in 8 foot shrub in center of shrub thicket. flies off to NE as I approach. flies again to near fence & hears squeal. no sign of either bird, but at 1116 both fly into tree (6 feet up) & squeal. one followed by 2<sup>nd</sup> by 20 ± feet flies to SW to near where ♂ was singing earlier. 1<sup>st</sup> bird then begins squeal & stops before arrival of 2<sup>nd</sup> bird. both move low in tree (1-2 feet up) & disappear behind shrubs.

1127 - lone bird flies silently (10-15 feet up) 50 ± yds. back to near lava fence. long, direct flight but still floppy & with tail pumping.

1130 - ♂ 6 begins singing at SW edge of territory, singing song type  $\text{B} \text{---} \text{v}$  about 1/4 sec.

1142 - still singing at  $\sim 1/4$  sec.

1144.5 - ♂ flies 75 ± yds to NE - flight direct & not floppy. ♀ had given one squeal & then another just before ♂ flew. loud squeal as ♂ arrived.

1146 - ♂ 6 begins to sing (type B) from <sup>S</sup>NE edge of grove. ♂ 7 sings several times. on dead branch  $\frac{3}{4}$  way to top of 25 foot tree. flies down to NE as I approach & hears squeal then quiet.

1204-1207 - watched one + for 1 ± min. both members of pair 6 foraging on ground at NE edge of grove. mostly in weeds < 4 inches tall but one back into 12+ inch weeds. still stayed ground.

1211 - ♂ 6 sings three consecutive, loud songs - ♂ 7 started singing (± minute earlier. then ♂ 6 moved to <sup>W</sup> side of fence & sang regularly until 1213.

left area at 1215.





LL Wolf  
1964

*Aimophila rufescens*

August 9

5 mi. E. Cuernavaca, 5400±ft., Morelos, Mexico

0550 - ♂ 1 singing when I arrive.

A = ---~ B = ---~

A, B, A, B, A, A, B, A, B, A, B, B, B, A, A, ———— Chir at 0555

A, A, B, A, A, B, B, A, A, B, A, B, A, A\* B, A, —, A, A, A, B, B, A, B, B, B, A —, A,  
B, A, B\*, B, A, B, A, B, A, B, A, B, A, A, B, A, B, A, B, A, B, A, B, then chir

notes, A, B, A, quiet at 0559 - bird singing 100± yds. S of road +  
maybe ♂ 1. Sang 16 songs in the 1 minute timed - representative  
of whole ~~series~~ series of songs.

0620 - found pair + foraging in grass + short weeds at N edge of  
road. flushed up into nearby shrub + then flew off to NE. ♂ up into  
20 foot dead tree + sang then flew off to E. As I approached ♂ + ♀  
flew into dead shrub + chir then squeal. as working to interior. at  
least one wing flicking slightly swinging spread tail from side to side.  
both may have been connected with moving into shrub. then both dropped  
to ground in grazed, short grass area where foraged on ground.  
dog ran thru area + both - one after other - flew up into 25 foot ± tree  
started from ~ 1/3 way up + worked to top. ♂ flew down <sup>to W</sup> to shrub +  
sang song Type A. ♀ worked to W. side of tree + then flew to W beyond  
♂. ♂ then to top of 20 foot dead tree (same as earlier) + song Type A.  
Suddenly assumed erect posture then wing + tail-flicked several  
times before flying farther to W to 10± foot tree from which disappeared  
after hopping along bare limb near trunk (4" dia).

0700 - 0707 - ♂ 1 singing almost continuously. - Both Type A + B songs  
with Type B predominant. Used three different perches. At least 2 were exposed  
perches on dead or bare branches - horizontal + ~ 2/3 way up in 25 foot  
trees. Couldn't see him on last perch.





LLW014  
1964

Aimophila rufescens

August 9 5 mi. E. Cuernavaca, 5900 ± ft., Morelos Mexico

0725- found pair 4 along little used road running N from main road. foraging on or near ground in 6-8" weeds. ♂ worked up into nearby tree where churred then flew off 15 ± yds. to W + continued churring then sang one short song. ♀ first appeared chasing a Melospiza kinneyi in low shrub. Melospiza flew off 5-10 feet only to be chased again by ♂ which flew over to where Melospiza landed. Melospiza then up to main limb of nearby tree (5-6 ft) + disappeared. rufescens worked up into adjacent tree then flew back into shrubby area. Next saw one bird as dropped to ground in 4-6 inch weeds + foraged. Hopped along occasionally using dead weed stalks as slightly elevated perches. Once jumped up several inches + pecked at live weed stalk 8 ± inches tall + knocked it down. > 75% of time watched foraging where only herb layer but did move around base of shrubs + up 1-2 feet into shrubs.

0742- churring notes from pair 4 followed by squeal just E. of where 1<sup>st</sup> found foraging. (75 ± yds. N of road near boundary of 2 + 4).

0750- one of pair 4 flew to dead limbs 15 feet in tree along little-used road. sat churring for 30 ± sec. + then flew off to W. + disappeared.

0800- ♂ 1 singing from bare portion of horizontal branch just down from top of 20 ± foot tree. 0802- flew off to E + sang 50 ± yds away. Then about

1/2 way back + sang from exposed perch 2/3 way up 20 foot tree. Flew farther to W + to or near ground. ♀ also flew over to same area.

10 ± sec. after she arrived heard short solo of squeal - + zeeee.

0825- found pair 8 (next pair SE of pair 6). first located by squeal. then watched one move up toward top of 25 ± foot tree. Pecked at bare 4" stub of small branch then worked slightly higher before dropping back down to peck at same spot.





LLWOLF  
1964

*Aimophila rufescens*

August 9 5 mi. E. Cuernavaca, 5900  $\pm$  ft., Morelos, Mexico

joined by other member of pair which perched at same spot from other side. Then both dropped to ground - one following other by 10-15 feet + squeal. flushed one or both from ground + flew off to SE where squealed. Then to ground + foraged off to NE. When I approached  $\sigma^7$  flew up from ground + worked rapidly to top of same 25  $\pm$  foot tree where I<sup>st</sup> watched. then flew (tail pumping) to W + dropped slightly - sang from new perch.  $\phi$  flew up into thick shrub + disappeared.

0855-1000 relocated pair 8 (possibly pair 6. well to <sup>E</sup> in territory). flew up from on or near ground.  $\sigma^7$  worked to NE where sang when  $\phi$  sat hunched on 2" dia. branch (8' up) - giving occasional cheer.  $\sigma^7$  back to juv + SW of  $\phi$  +  $\phi$  began to move about in tree. both then down toward ground to SE + squeal. walked over there + saw mostly  $\phi$  working on ground + up to 3-4 feet up in shrubs.  $\sigma^7$  would fly off to NW + sing then return.  $\phi$  chipping (tzeek) most of time. - churring occasionally.  $\phi$  into interior of shrub +  $\sigma^7$  to tree just NE.  $\sigma^7$  began churring as  $\phi$  flew out of shrub as I approached. flew up to dead branch of tree (6 feet up) where sat preening.  $\sigma^7$  flew over + both flew into shrub. worked shrub + chipping regularly.  $\sigma^7$  flew off to W where sang +  $\phi$  off to SW to thicket as I approached shrub. Young bird flew from about 3 feet up over (20  $\pm$  yds) to where  $\phi$  had gone. Followed +  $\phi$  stayed within 10-15 feet of  $\sigma^7$  in shrubs + low branches of trees - rarely higher than 3-4 feet. chipping regularly occasionally with stop to cheer for 5  $\pm$  sec.  $\sigma^7$  worked thru area once + then off to NW to sing.

Two *Basileuterus rufifrons* flew in + also began chipping + scolding. Worked to as close as 10+ feet + then worked out of sight. At about 0950 (after 10-15 minutes) young (nearly full grown) began to work up from





LLW016  
1964

*Amphispiza rufescens*

August 9

5 mi. E. Cuernavaca, 5900±ft., Morelos, Mexico.

Young

near ground to height of 2± feet in tangle of shrub branches. Chipping. When I approached flew 10± yds. in arc + landed on tree branch 7 feet up. Then flew 20± yds. farther + I lost track of it. ♀ still chipping - this time from tree branches 6-8 feet up. Probably because ♂ was actively chasing young. While chipping with young hidden ♀ (+ ♂ in 1<sup>st</sup> shrub) worked close to young. At 2<sup>nd</sup> location ♀ spent 50%+ of her time within 5± feet of young.

Left this pair at 1000.

1030 - flushed pair & from on ground in shaded area under tree shrub cover, but beneath layer of 6-8" weeds. Both flew up into nearby trees. One worked to NE while other went to SW. one from SW then to NE to approach other - both 8± feet up in trees + moving along horizontal limbs. one then flew to NW to edge of shrub thicket giving chase as it went. other did not follow + I lost track of both.

1055-1110 - ♂ 1 singing from shaded tree grove. began singing after ♂ 3 gave short burst of song. ♂ 1 sang from 1 to 12± minutes. mostly --- song. once moved 10± yds to E. + landed 8 feet up in lower branches of tree. then did flips landing once in dropping straight down to ground. within 10± sec. he was back up to lower branches + moved back to where was singing + resumed singing.

1125-1140 - ♂ 5 of ♂ 1 singing with occasional songs by ♂ 1. alternates type A + B songs. Is in upper 1/3 of 30 foot tree + moving about as I approach. moves to back side of tree + stays there hidden from view. seems to have few soft songs followed by some loud songs. All given from same position. may relate to singing of ♂ 1, but not obviously.





LLW 014  
1964

*Amphiphila rufescens*

August 9

5 mi. E. Cuernavaca, 5900± ft., Morelos, Mexico

♂ 1 continues singing after 5♂ quies - ♂ 1 singing all loud songs from 50± yds. to NW. mostly type B song. Stops for 3± minutes at 1147 + then starts again from slightly farther to NW. 5♂ remains quiet + may have left tree.

1156 - ♂ 1 ceases singing.

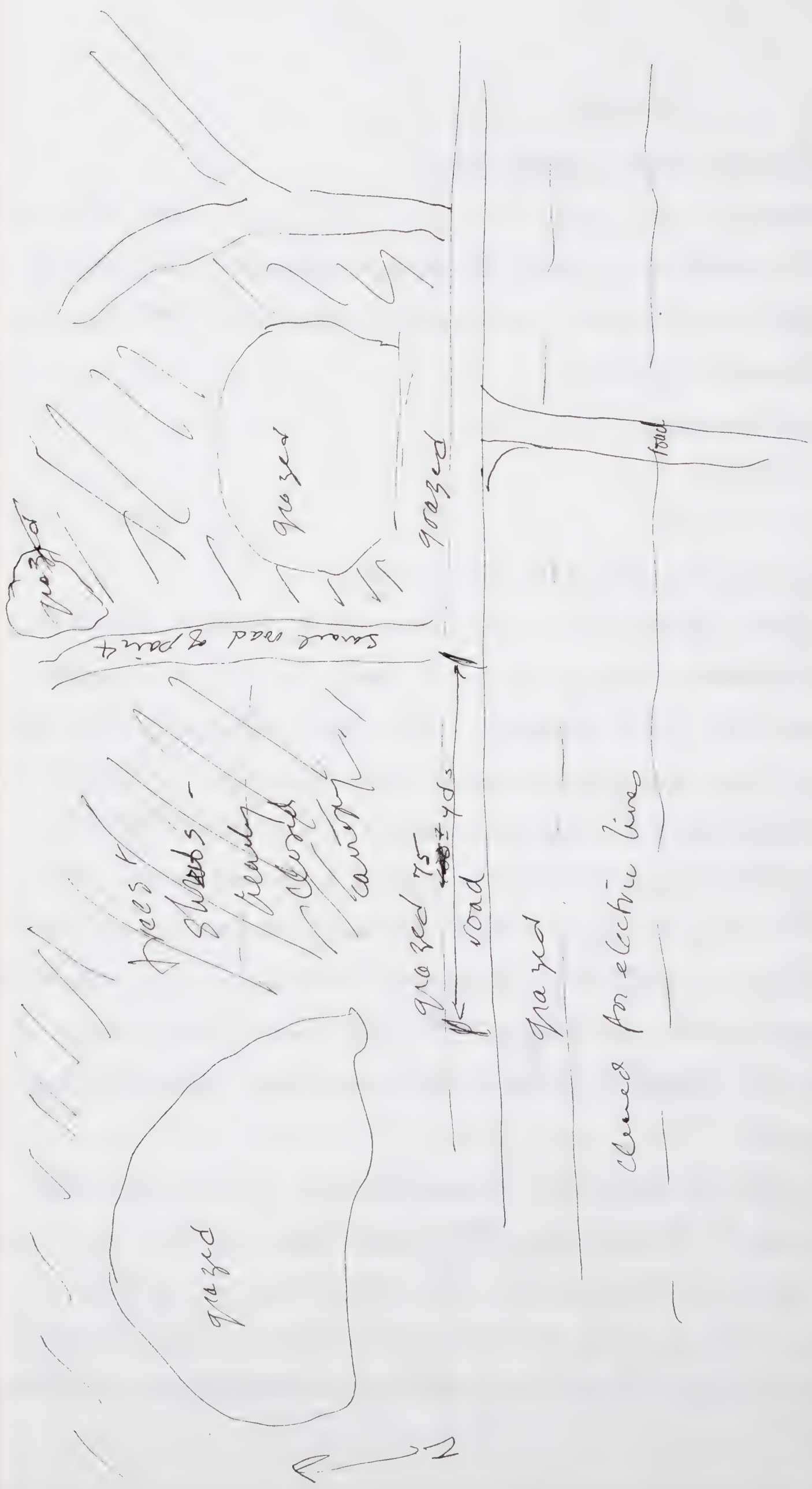
left area at 1200.

August 10

5 mi. E. Cuernavaca, 5900± ft., Morelos, Mexico

0557-0620 - found ♂ 4 singing from top of 6 foot dead stub 20± yds. N of road in center of territory 2. Unable to see him in pre-dawn light until flew back to NE 10± yds. where hopped toward lava outcrop + sang several times from ground. Mostly giving churr notes. moved to E. to edge of lava outcrop where moved up into dead branches of shrub. moved up to 3± feet above ground + churred continuously except for occasional single songs. Assumed normal sitting posture during churring with tail + body axis in straight line. neck not extended + feathers not fluffed. <sup>occasional</sup> slight flicks of tail. moved up to slightly higher perch where continued to churr + sing infrequently.

♂ then flew to W. where lit in tree ~~on~~ just east of small road often used by pair 4. churred + sang then dropped to ground where sang from dead stub 1± foot above ground. Then down to ground to forage for 10± sec. Flew up to tree on W side of small road as I approached + began moving thru trees to W, moved about 10-15 feet above ground, churring as goes.





LL Wolff  
1967

*Amphispiza rutescens*

August 10 5 mi. E. Cuernavaca, 5900±ft., Morelos, Mexico

moved into open, grazed area where have watched pair & forage before. Up into trees in area & then dropped to ground in 2-4 inch grass & weeds. ♀ appeared from front of shrub thicket & two foraged for 3± minutes. Both hopped along ground picking at weed heads & ground. ♀ once flew up to dead weed stalk 8-12 inches above ground & dropped immediately back to ground just below & continued foraging. ♂ sang once from ground.

♂ then up into tree or shrub nearby where sang several soft songs before flying off to E. where heard cheer notes. He walked toward area heard squeal from in shrub & tree grove. One bird (♂) up into trees where moved out on bare limb & cheered then sang one soft song. Flew back to N (away from road) & squeal. Other bird had moved thru low branches (1-2 feet up) of shrubs & then out onto dead branch 4± feet up before flying back to N.

♂ sang type A+B songs generally alternating. When birds go from ground into tree tops rarely go whole distance in one flight but up into lower branches & then box up branches & by short flights work rapidly to top. will use mainly bare branches but will move thru foliage. rarely use vertical or nearly vertical limbs & trunks, but generally those with slight incline (up to 30°) above horizontal. rarely do use vertical perches for momentary stop but usually use small side branches.

0708 - flushed one of pair & from ground in weed patch (12-14" tall) near small road & 10+ yds N of main road. Flew back to trees & worked thru lower branches (6-8 feet up) to N. & disappeared.

0710 - ♂ & sang 2 consecutive songs from grazed area to W.





LLW014  
1964

*Aimophila rufescens*

August 10 5 mi. E. Cuernavaca, 5900± ft., Moulas, Mexico

0730 - pair 3 - heard heard ♂ sing several short outbursts with much longer intervals of silence. Saw one of pair 3 foraging in "*Ipomoea*" ~  $\frac{2}{3}$  way up in 25± foot tree. Then flew to <sup>ground</sup> + heard squeal. One of two then dropped to ground from small shrub + foraged in 6-10" weeds.

0735-0755 - ♂ 2 up into top of 8 foot dead shrub when churring. S E of lava hill by 50± yds. Apparently have lost W end of territory to pair 4. ♂ then came into trees 25± yds. W of road - churring + singing. Moves out to tree 10± yds. from road + slightly farther to W where gives loud series of three songs in succession. Flies to trees to NE as I approach. Gives tree call on landing. Works three trees singing occasionally then flies to shrubs 20± yds to E where sings from 3-4 feet up several songs - Both A+B types - before flying back to W 50 <sup>50</sup> ~~20~~± yds N of road. gives tree call on landing + begins working three trees about 15± feet up. Then drops down toward ground + gives tree call followed by squeal - then silence.

0830-0845 - ♂ 8 singing from bare horizontal limb (1-2" dia) 8 feet above grazed area. Mostly type A song. Moves to N. 20± yds± where begins churring (this after dropping to <sup>ground</sup> in area of 2± foot weeds + squealing) - then must have circled around to W as heard chur notes from where squealed + then another bird (♂?) appeared on horizontal limb 40± yds to W + also churred. Bird from W flew over to other near ground + squealed. then silent.

0906 - ♂ 8 sang two consecutive songs from just SW of where last seen then silent.

0925 - ♂ 8 (apparently pair 6 which has shifted center of activity to SE) sang for 3-4 min.





LLWOF  
1964

*Ammodramus rostratus*

August 10 San E. Cuernavaca, 5900±ft., Morelos, Mexico

0940 - pair 8 (6) - one or both churring for 15± sec.

0942 - ♂ 8 (6) begins singing --- + single notes. not frequently

0943 - ♂ 7 begins to sing across road to N. ---~---. new

Song type. ♂ 8 continues singing until 0949 where he squawks  
dust + ♂ 8 silent. ♂ 7 sings until 0946 + then silent.

0958 - ♂ 6 (8) sang for 30± sec. + then quiet. I left this area + back to area  
of ♂ 1, 4, etc. to E ¼± miles.

1030 - ♂ 1 singing from shrub + ~~low~~<sup>tree</sup> grove-dense. I try to approach +  
he keeps moving away. Circles to N + then E. Quiet from 1039-1041  
+ then starts again - possibly partly due to stimulus of ♂ 2 singing  
to NE following ♂ 3 singing to E. Then silent again at 1050.

1053 - sporadic singing ---~--- prob. he's up  
introduct. note

sounds to be singing from low near ground + is in shrub +  
tree thicket, quiet for several minutes from 1055-1057 + then  
3 songs a 5± sec. apart + quiet

probably is singing as forages.

1105 - ♂ sang softly from ground several times before both flushed from ground  
near side road. flew up into nearby shrubs + then to lower branches of tree  
+ proceeded to work up to near top of tree + disappeared.

1122 - ♂ 2 sang three times - 2 loud, 1 soft - then quiet.

1138 - ♂ 7 sang for 10± minutes - type B + A - more B. was on elevated  
perch but hidden from view. Dropped toward ground giving chur notes  
then silent.

1155 - ♂ 8 (6) sang three consecutive songs ---~--- type + then silent.

1208 - one of pair 7 chur for 5± sec.



LLW01f  
1964

Aimophila rufescens

August 10

5 mi. E. Cuernavaca, 5900 ± ft., Morelos, Mexico

♂<sup>7</sup> sang twice then short pause + sang twice more. followed songs - 5  
in succession by another ♂ to N. then ♂<sup>7</sup> sang once more.  
left area at 1217.





Wolf, L. L.

1963-1964

Aimophila

sumichrasti





LLWOLF  
1963

*Aimophila sumichrasti*

August 14 3 mi. E. Tehuantepec, Oaxaca

♂ singing from  $\frac{1}{2}$  way up in 10 foot legume. Then to top of adjacent 15 foot tree to sing. Another <sup>(2<sup>nd</sup>)</sup> started singing to west. This <sup>1<sup>st</sup></sup> flew in that direction + 2<sup>nd</sup> flew to east. met in top of nearly defoliate legume when sang + chatter. both ♂♂ went thru shrill + stretch displays while singing. Display not directed exactly toward other bird. After 2-3 minutes two birds exchanged places on branches. A 3<sup>rd</sup> bird - prob. ♀ of #1 - worked over to tree + all flew off. Unable to see if chase.

0615 - 1<sup>st</sup> bird back to "territory" + singing from top of 10 foot tree. Flew to west + when gave chatter call.

Moved to another location.

Have three pairs spaced along cut for electric lines. At about 20-25 yards + 10-15 yards. Each pair in tree or shrub + only one pair not exposed. All were chattering. Pair 3 flew across cut when another bird(s) started chattering over there. Pairs 1 + 2 kept chattering - seemingly in response to chatter of each other (pairs). Saw both members of each of these pairs chattering together. Hold wings out a little from body + slightly shake. Bill held open + slightly elevated. Pair 1 had one bird sitting on top branch + exposed to view, other bird slightly below + hidden from my angle of observation. Pair #2 had both on branches

territorial  
encounter  
3 birds

pairs  
chattering





LL Wolf  
1967

*Amorphila sumichrasti*

August 14 3 mi. E. Tehuantepec, Oaxaca

<sup>2</sup>/<sub>3</sub> way up in 12-15 foot tree which is essentially defoliated. One sitting closer to trunk than other, closest was about 1 foot from trunk. Both were several feet above canopy of shrub layer beneath. It appeared that chattering by pair probably is vocal territorial defense.

Left for short time.

0645 - found pair <sup>2</sup>/<sub>3</sub> way up in 8 foot tree. Pair across cut area (prob #1) chattered & was answered by pair I am watching. This occurred several more times & also in response to pair to west. Also have chattered after each of 3 times John has fired gun.

0710 - flushed a bird prob. ♀ of pair 3 - from on or near ground. flew up onto 3 feet high branch & bill-wiped. Then flew off.

Herb layer vegetation is very dense & averages 2 feet ± tall. This means foraging birds on or near ground are impossible to see. Apparently all this herb layer comes up in response to summer rains.

Found another pair - watched one bird fly across cut area to land 2-3 feet from other bird. Both chattered. Heard chatter across cut & bird from pair flew back across. 2<sup>nd</sup> just changed perches & bill-wiped. 1<sup>st</sup> minute it flew across opening & when arrived in shrubs chatter not heard. Then both birds flew further away from open area





LLWOLF  
1963

Aimophila *sumichrasti*

August 14 3 mi. E. Tehuantepec, Oaxaca

0720 - watched this pair fly out to edge of cut + land in small bush just at level of tops of grasses. Then disappear into thick, 2 $\pm$  feet high grasses. When I approached flushed one bird from grass. Flew to dead limb 18" above ground + bird wiped. Then back to small bush at grass top level + down into grass. Next saw one of this pair at 0730 when it was 6 feet up on some cut, small trees that were propped against others. Perched on 2" diameter branch + had "bug" in bill. Agitated. Finally flew across cut to south + disappeared in forest. About 3 minutes later another bird flew in same direction. Probably feeding young. In search of area could find no nest or fledged young.

By 0745 - song has ceased + chatter is only heard occasionally. One pair is chattering much more often than rest of pairs I hear put together.

0750 - heard bird sing 5-10 songs out closer to road. Sun is hot already + a stiff breeze has come up.

0830 - following yet another pair. They are working in canopy + sub-canopy of shrub layer when I see them. Drop down to ground + I imagine this is where they forage. When this pair chatters another usually answers from 15-30 yards to west. Chattering usually done from 3-6 feet above ground + on dead or otherwise exposed limbs, but well below the shrub canopy. This is marked contrast to birds

chatter  
yes





LLW81P  
1963

*Aimophila savichrasti*

August 14 - 3 mi. E. Tehuantepec, Oaxaca

chattering this morning from perches above shrub canopy. When I see them chattering the pair is usually within one or two feet of each other. Can hear single birds chattering + when seen they are alone or at least other bird is not visible.

0850 - watched this same pair & both birds worked toward shrub vegetation to ground. both use horizontal to nearly vertical perches on descent. Lost them when on ground but both flushed from nearly spot I had seen them disappear after about 1 minute ±.

0852 - sounded like chatter but giving out birds 10-12 feet apart. cannot see either bird but sound was coming from 2 directions in front of me.

0853 - softer version of chatter heard. perhaps this is what people are calling whisper song.

0857 - pair came in when I schussed + sat quietly. One followed <sup>by</sup> other, flew to another dead, horizontal limb 4 feet up + heard no chatter. One flew as was gone as 2<sup>nd</sup> left + this time just after second left I heard soft chatter call. Sounded as if given by single bird.

chatter  
apart

soft chatter





*Aimophila sumichrasti*

Aug 14. 3 mi. E. Tehuantepec, Oaxaca

Two adult-sized birds fed briefly in a rut of an ox-cart road through the thorn forest. One bird (♀?) was seen to pick up a small object from the ground and feed it to the other, which uttered "peeping" notes at this action. Another bird (♂ of the pair?) sang from a tree within sight of the 2 on the ground.

A pair with 3  $\frac{1}{3}$  grown young, out of the nest, was observed further along this road. The adults circled about in the trees, giving the duet chatter, both alone & together, as long as I was in the area. Later one adult & 2 young were collected.





LLW&F  
1963

*Aimophila ~~sumichrasti~~*

August 14 3 mi. E. Tehuantepec Oaxaca. (5)

parents  
family  
groups / Saw birds either in pairs or in family groups. John collected one juv. which was almost entirely in adult-like plumage. Tail feathers were acute + few spots still molting. Skull not ossified. Also took 2 or 3 fledglings. Thus it seems that breeding seasons probably starts in June + continues at least thru early July.

Did not see any flocking as in *A. rubicauda* *acuminata* + *A. nelsoni*. This may be a function of time of breeding cycle. *A. mystecalis* also had large young + was not in groups. For this + *sumichrasti* it is not possible to say now if they flock during early portions of breeding season.





LHW:4  
1963

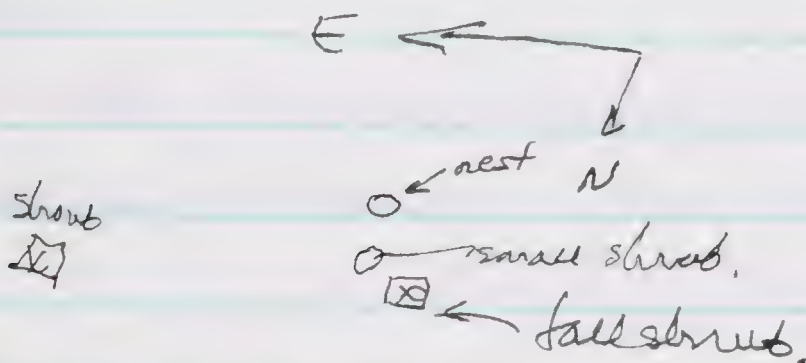
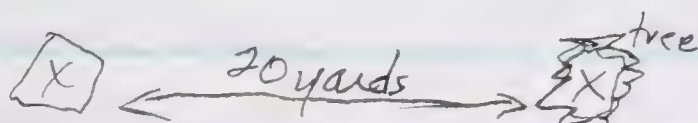
*Ammodramus sumichrasti*

August 15

5 mi. E. Tehuacan, Oaxaca

nest building

Discovered ♀ in early stages of nest-building this A.M. while trying to record vocalizations of the territorial ♂. (end of tape 4). He sang from several perches within 20 feet of nest while ♀ was adding material.



Pan Am Hwy.

♂ singing what sounds like sds of chatter. heard + recorded few - - - - - calls. Began this type of call almost entirely at 0657. Was then 15 yards SE of nest.

Another pair has territory to S. + probably tree marks one corner. While ♂ was singing near nest both members of neighboring pair flew to near base of tree + gave chatter duet. Then flew to 5 feet closer to nest. ♂ of nest then flew about 1/2 distance toward them + sang. Pair moved slightly closer with more chattering. As ♂ approached within about 20 feet the pair





LLW&F  
1963

*Amnophila sumichrasti*

August 15

5 mi. E. Tehuantepec, Oaxaca

retreated to 20+ yards south of tree.

0700 - ♂ began singing solo chatter-like song.

0702 - back to -- 5c... song.

0703.5 - ♀ flies in from SE with long pieces (6") of dead grass. lit first in small shrub (see map) + then flies over to nest. ♂ about 20 yards to SE singing (solo chatter). ♀ leaves at 0704.

0705 - ♀ back from same direction leaves in 20 sec. ♂ essentially quiet except for ship notes as she left nest area.

0706 - Sounds like adjacent pair chattering from 5-10 yards to S of tree.

0707 - ♀ in to small shrub. ♂ into taller shrub just N. adjacent pair gives chatter + ♂ gives extra loud + long solo chatter. ♀ silent. ♂ follows ♀ as she leaves. have only heard ♀ make soft chips once when leaving nest otherwise is silent.

0708.5 - ♀ to nest from small shrub. ♂ to small shrub south of nest 5 yards + silent except for soft chips just as ♀ leaving. then ♂ flies to 20+ yards to SE + sings solo chatter.

0710 - ♀ in + out

0711 - ♀ in carrying 6-10" piece of limp, dark brown, dead plant material. 0712 - ♀ out.





LLWsf  
1963

*Amphispiza sumichrasti*

August 15

5 mi. E. Tehuantepec, Oaxaca, Mexico.

all nest-building activity continues with one 15-20 feet away + sitting

0714 - ♀ in to small shrub, followed by silent ♂ who flew to tall shrub just N. Sang one song after several soft notes while ♀ at nest. ♀ flew back to small shrub + left.

♂ followed about 15-20 sec. later after giving another song.

0715 - ♀ in. ♂ to small shrubs 10 yards SE of nest then as ♀ leaves flies to tall shrub + sings three whistled songs + then starts solo chatter. Is about  $\frac{3}{4}$  way up in shrub (2 feet) + works way up to top. Sings twice + flies to SE.

0721 - ♂ sings solo chatter after bird in territory to W has sang three solo chatter phrases. ♀ has not yet returned to nest since 0715.

0740 - surrounding birds still give occasional series of solo chatters + duet chatters, but not for sure have heard any vocalizations from nest-building pair. Not sure of extent of their territory.

0745 - another bird has appeared at nest site for 1/2 hour so I am leaving.

0800 - as I walked off path thru thorn forest to collect ♂ singing I found another nest of Sumichrasti. This ♀ flushed from nest when I was 6-12" away. She left silently to NE where began chirping. ♂ came in to 30 feet away + sang

♂ + ♀  
nest of  
young





LL5814

1963

*Aimophila sumichrasti*

August 15 5 mi. E. Tehuantepec, Oaxaca

several times. Then they disappeared, but were probably among the singing & calling birds that I could hear in several directions. About 20 minutes later pair came in from NW. Worked thru trees & shrubs about 8 feet up until the bird was in small tree just above nest. During approach one (♂?) gave solo chatter & other (♀?) gave occasional series of chipping notes almost fast enough to be a trill. This bird came down toward nest while other worked higher in tree. Higher one flew off short ways & ♀? followed. Back again in about 10 min. & thru same routine. At 0835 ♀ returned alone & hopped down 8 foot tree next to nest until about 1 foot above ground. Giving occasional chip notes & several series of chips. When so close to nest flew back up & about 10+ feet to east. Then appeared to drop to ground, but soon reappeared in almost same spot where joined by other member of pair. One bird then flew to tree next to nest & hopped around. 2<sup>nd</sup> flew off 20+ feet to SW. 1<sup>st</sup> followed in 15± sec. Could hear solo chatter & chipping from that direction.

At 0850 both birds flew into tree branches ~ 10 feet up & 30 feet to SE. ♀ then worked gradually toward nest ending in small tree next to nest before flying off to SW. Gave occasional chip notes on this approach.





LLW814  
1963

*Amphispiza sumichrasti*

August 15 5 mi. E. Tehuantepec, Oaxaca, Mexico.

Nest came in at 0855. Both members of pair worked on S. side of nest. ♀ gradually came closer & closer to nest on this side furthest away from me. ♂(?) kept flying to near ♀ & then off to S. Finally ♀ dropped to just above ground & remained still & silent. Then hopped down to nest. ♂ returned & perched just above ♀. ♀ flew to small bush just to W of nest & lit in top. Then dropped down so essentially out of sight, but could see bushes move. ♂ then flew off to S. ♀ settled on nest. Heard soft chirp notes, but not sure if given by ♂ or ♀.

Nest: 20 cm. from top rim to ground. outside diameter 80-90 cm. inside 50-60 mm. depth 45 mm.

placed near base of 3 foot shrub. just above where multiple stems emerge from ground.

rather bushy exterior of dead grass & weed stems, incorporated few dead vines that were growing up shrub. lined with finer plant material, but still fairly coarse. no soft, fine lining.

1 young + 1 egg when found. egg dull or off white. hatched before could be measured both young preserved. collected ♂ parent.

Again today saw only pairs or family groups. As the breeding season is still in full swing I would guess that this species only rarely, if ever, forms flocks during the breeding season.





LL Wolf  
1963

Aug 15

*Aimophila sumichrasti*

by J. P. Hubbard

5 mi. e. of Tehuantepec, Oaxaca

On several occasions "dueting" was closely observed in this species. In all instances it may be described as follows: two birds (assumed to be members of a pair) come together, generally 1-4 feet apart, and perch. One bird (assumed to be the ♂) in most instances begins the "duet", which is a speeded-up version of one of the songs with the emphases changed, and the other bird (assumed ♀) joins in. During the performance the birds often face each other but not always; they may both face the same direction. Each "sings" with its bill open and often pointed upward. The body seems to jerk with each note and consequently the tail and wings, which are held rather loosely at the sides, appear to quiver. The finish of each "duet" is variable.

Duet





AL Wolf  
1963

*Aimophila surnichrasti*

August 15

5 miles east of Tehuantepec, Oaxaca, Mexico

ie, the ♂ may finish first, the ♀, or both together. Generally, the ♂ appears (and sounds like) it is the last to finish.

The vocalizations of the members of 3 different pairs were dimorphic: the ♂ (assumed) utters a distinctly different phrased "song" consisting of high & lower-pitched notes, the ♀ seems to utter a more uniform "song" consisting of double-noted phrases of fairly high pitch and only a slight change in emphasis. Thus the "songs" might be rendered.

♂ --- \_ \_ \_ \_ \_ (etc)

♀ -- ----

The exact synchrony is not easily determined but appears to be fairly uniform, ie, the "dueting" sounds the same from time to time. ♀♀ rarely give their "song" while the ♂ is not also singing, but it was heard ca 6 times.





LLWOLF  
1963

*Aimophila samichrasti*

August 16 3 mi. E. Tehuantepec, Oaxaca.

3 birds

Recording ♂ vocalizations when another bird started chatter. ♂ flew to same bush - 30-40 feet away - + began chattering also. A 3<sup>rd</sup> bird arrived + all flew into thorn forest. Collected ♀ + she had scaly brood patch. Would guess 3<sup>rd</sup> bird was a full grown young essentially thru post-juv. molt.

Range  
+  
habitat

Except for this one group of 3 saw only pairs of birds today. Flushed a lone bird from grass in power line cut. It flew immediately back into thorn forest. Probably this species uses the cleared areas for foraging + the ♂♂ come to the edge frequently in the early morning to sing from elevated song perches. But the core habitat for the species is apparently the dense thorn forest.

♂ whisper  
song

Pair came into "schuss" ♀ about. Heard bird behind ♂ giving very soft version of . . . . . song. Probably soft enough to be a whisper song. Was repeated 5-10 times + then bird flew 10 feet + gave one more followed immediately by regular volume version of same song. Did not hear ♀ join in with any sort of vocalization. Collected ♂.

2295 tail molting testes 6x7 mm

2297 old brood patch; no molt. ♀





LW018  
1963

*Amophila sumichrasti*

August 17 2 1/2 miles E. Tehuantepec, Oaxaca, Mexico

2312 - broad patch re-feeding, back molt. #1 primary - 1/2 grown.  
some new 2° coverts.

2315 - ventral molt. + 2° coverts - quarter.

2316 - molt on head, lower back, + ventrals. stage 4 broad patch.

2317 - no molt.

Watched 2 birds chattering + moving thru thorn forest vegetation 3-8 feet above ground. One would fly to dead branch + land. 2<sup>nd</sup> would then land in almost identical spot forcing first to move. 1<sup>st</sup> usually flew 3-10 feet further + whole process was repeated. Watched 10± exchanges of this type. Heard chatter call being given but not sure by which bird. Also not able to collect either bird so uncertain as to which sex was which. John says he thought ♀ was no. 2 bird forcing ♂ to fly when he watched a similar action.

Whole bout lasted 1± minutes + covered about 30 feet in straight line, but birds traveled on arcs.

Today encountered pairs of birds or singles. Found no family groups, but John caught 2 fledglings.





LL Wolf  
1963

*Amophila sumichrasti*

August 18

Fri. E. Tehuantepec, Oaxaca, Mexico

- 2342 - molt tail.
- 2344 - brood patch whole tail  $\frac{1}{2}$
- 2345 - scattered body molt.
- 2346 - light back molt. (over back)
- 2347 - brood patch scattered body molt.
- 2348 - brood patch. scattered body molt.
- 2349 - scattered body molt.
- 2350 - scattered body molt. # (rectrices newer than rest of tail).
- 2351 - no molt.
- 2352 - scattered body molt.
- 2353 - scattered body molt.
- 2354 - brood patch scattered body molt.
- 2355 - brood patch scattered body molt.
- 2356 - no molt.
- 2357 - plumage, incl. wings + tail, mostly new.
- 2358 - scattered body molt.
- 2359 - no molt, brood patch.



LL&H  
1963

*Aimophila sumichrasti*

August 18

4 mi. E. Tehuantepec, Oaxaca, Mexico

Found pairs spaced thruout thorn forest. Distance apart 20+ yards. ♂♂ singing. One seen singing in top of 20 foot tree. Was slightly above surrounding canopy & exposed. John reported that young bird collected today came up from ground after 2 of 3 adult-plumaged birds were collected. Apparently young of this species out of the nest hide on or near ground in dense cover. Perhaps do some foraging for themselves.

2 birds collected of 3 with juv. proved to be ♂ + imm. ♀. Appears as if young of earlier nesting although in adult plumage stay with parents during 2<sup>nd</sup> brood. Not sure if they contribute to raising 2<sup>nd</sup> brood.

August 19

2 1/2 mi. E. Tehuantepec, Oaxaca, Mexico

2360 - brood patch, light body molt.

Aug 19

5 mi. e. of Tehuantepec, Oax.

Eggs 1. 22 X 17 mm

2. 22 X 17 mm

3. 22 X 17 mm

nest 15" above ground in low shrub. grasses make up outer cup & lined with rootlets. nest is thin & one can see thru bottom of cup at various points.





LL Wolf  
1963

Aimophila semicincta

August 20 — vicinity of Tehuantepec, Oaxaca

Heard bird giving chatter call. 7 mi. E. Tehuantepec,  
Oaxaca. Then on way to Oaxaca city (not heard  
birds just sw. of El Boqueron. This is at  
same loc. as recorded in 1959 by  
J. P. Hubbard + P. A. Zimmerman.

distribution





LLW014  
1964

*Amorphila semicincta*

August 18

4 mi. E. Tehuantepec, 100± ft., Oaxaca, Mexico

0630 - found ♂ 2/3 up in 8 foot tree at edge of closed canopy vegetation singing what sounds like solo version of chatter - - - - -

0632.5 - left perch + dropped to ground. I walked over + both flushed from ground into shrubs - 3-4 feet up on dead horizontal branches. Both bill wiped thru ♂ preened while ♀ dropped to forage. Hopped along in 75±% continuous herb layer - mostly grass + a velvety leafy herb growing up to 2 feet tall. ♂ ~~the~~ sang once loudly while preening. finished preening + worked to top of adjacent shrub (8 feet up) to dead top branch where began singing (0641). At first singing loud, chatter song, but soon switched to - - - - - song. Gave two short chatter songs - each time when vehicle passed on road 75± yds. to N.

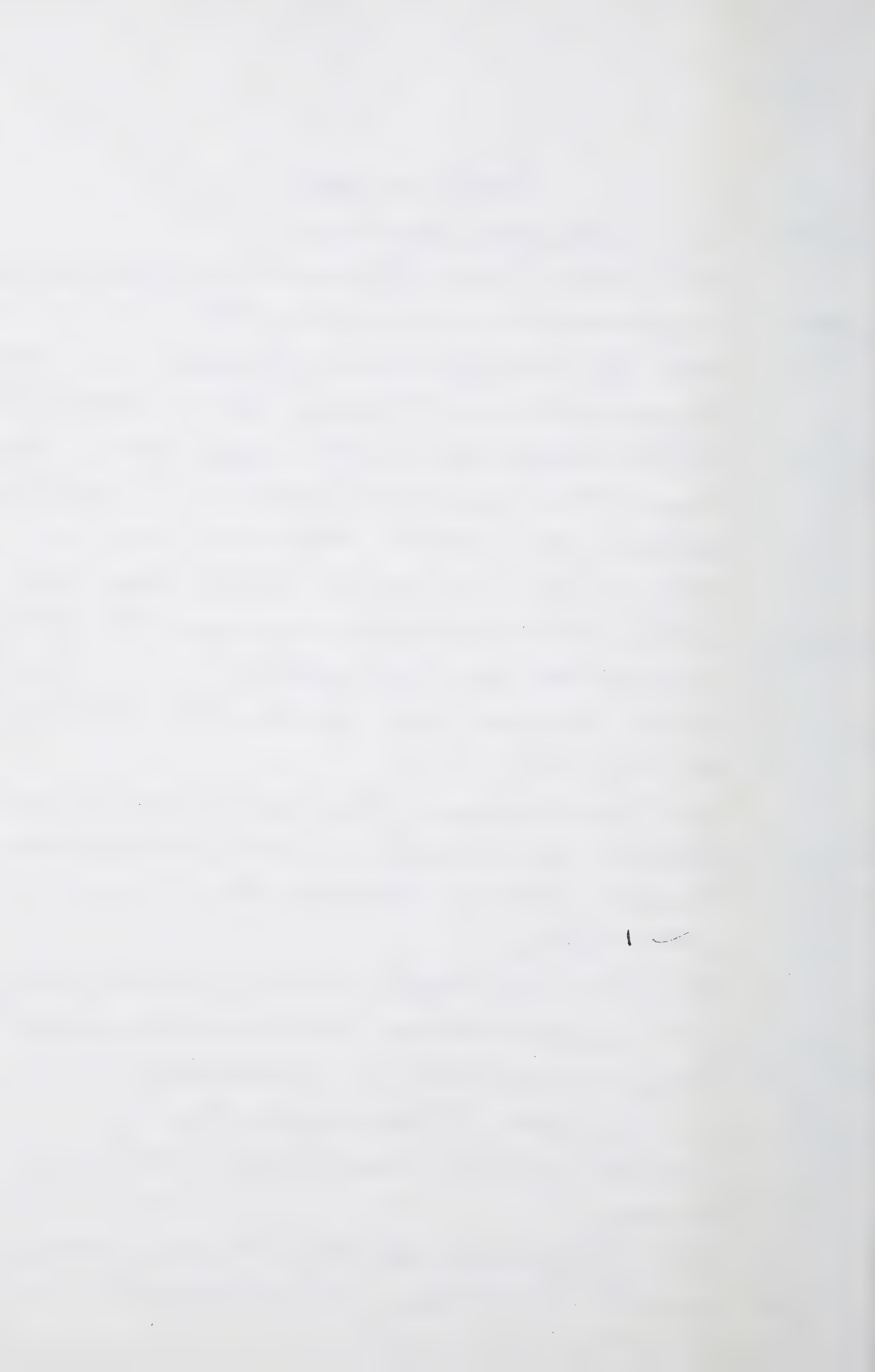
0647 - ♀ up into lower branches of shrub. moves from leafy branch to leafy branch. hitting leaves with head + breast causing water droplets to shower down. Then onto same dead branch where earlier flushed + sat preening.

0651 - ♀ left perch.

0653 - ♂ flew to top of next shrub to N (5± yds) + sat on bare portion of limb. Gave single chatter song. Both then flew to small pile of dead Acacia branches 20± yds. to NW. ♂ chattered loudly, but didn't sound as if ♀ joined. ♂ to ground + forage to west.

0655 - up to top of 8 foot ± shrub where sang chatter song. ♀ sat preening.

0700 - ♂ flew from song perch down to 3± feet from ♀ where gave solo chatter. ♀ continued preening. ♂ silent + dropped down to 1± foot above ground.





LLWof  
1964

*Aimophila sumichrasti*

August 18

7mi. E. Tehuantepec, 100± ft., Oaxaca, Mexico

0703 - ♀ left perch. ♂ flew over to where she had been sitting then flew up into shrub, worked to top (2 feet up) where began chattering song. - ~ 8/minute for one minute. Several times gave single chip notes + once chip followed by short note.

0708 - began - - - - - song. - ~ 10/minute. Sang two chatter songs when bus passed + once as it started to backfire then immediately switched back to - - - - - song.

0710 - ♀ up into low (2± feet) branches of 5 foot Acacia. Had been chipping (tzee) softly from ground close to perch from where disappeared. Was carrying several short twigs in her bill. ♂ ceased singing + at last continued soft tzee notes. ♀ flew off to NE to fence where sat on post + quietly. ♂ continued tzee notes. ♀ then flew + along fence + into Acacias between road + fence. ♂ flew beyond her to E. ♀ flew again to closer to road. ♂ to 5-6 foot Acacia 10± yds to S where sang softly. ♂ then over to fence where sang chatter song from fence post. twice sang "whisper song" - chatter song, but soft.

♀ over to fence + into pile of dead Acacia branches. Picked at something several times but did not pick it up.

0725 - ♂ to ground near ♀.

0730 - ♂ to fence post just above where ♀ last seen. silent. then flies 20± feet to E + to <sup>earlier</sup> song post. Gave several short whisper songs + loud chatter songs. - Most of loud songs given when vehicle passed on road, singing very infrequently (less than 3-4/min). + many of songs are only partly completed.





L. WOLF

1964

*Amphispiza sumichrasti*

August 18 4 mi. E. Tehuantepec, 100± ft., Oaxaca, Mexico

0741 - ♀ up into dead Acacia pile. When sat for 3 minutes + then ♂ flew down next to her. Both then dropped to ground.

Song

0749 - ♂ up onto dead branch 6-8 inches above ground + sings loud, chatter song twice. Then flies to fence post where sings several times + drops to ground.

Song  
repeated

( 0752 - ♂ sings from on or near ground (l. chatter) as vehicle passes. Then up into Acacia pile + to fence post where sits quietly.

0753 - ♂ sings loud chatter after Centurus calls. Starts another after Centurus calls again.

0754 - portion of soft song. Then loud song. Loud song at 0755. followed by another 20± sec. later a vehicle passes. 2<sup>nd</sup> vehicle follows by 100± yds. + bird does not sing -

0757 - long chatter song followed by 2 shorter ones.

0758 - ♂ leaves perch + to ground.

0759 - both on lower strand of fence wire + one momentarily up into shrub 3± feet + then drops to ground.

0801 - both flush in dead Acacia pile as oxcart passes.

0804 - ♂ up to fence post - to another + back to first where sings both loud + whisper chatter songs. Drops down as another oxcart passes.

0809 - ♂ to fence post to ground + back up to fence post.

0812 - ♂ flew past me to SW.

0814 - ♀ up from ground into Acacia pile where sat quietly preening.

( Gave several short series of soft, rattling tee, tee, tee calls + then quiet again. flew up to one of the fence posts used by ♂ + sat quietly then several short tee-series + an infrequent tze- softly.

grass, woods & Acacia

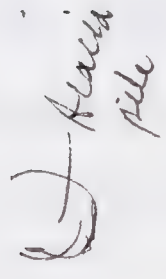
N



Tree of  
Gambel  
& prairie



- fence -



first seen  
foraging  
here





LLWof  
1964

*Aimophila sumichrasti*

August 18

4 mi. E. Tehuantepec, 100± ft., Oaxaca, Mexico

0822 - ♂ sang from shrub behind me + ♀ flew off along fence + ♂ flew out to join her. Two lit on fence - on different strands of wire + chatter - sounded like both contributing, but ♂ louder. one then to top of fence post + both disappeared at 0825 while I wrote notes.

0828 - ♀ up to fence + drops to oxcart trail on N side - works along edge in grasses + flies back up to fence (0830) carrying short pieces of dead grass stems in her bill. Flies off to NE between fence + road. - same direction as last time with nesting material. As I walk over (after waiting 5 minutes for her to appear) a bird begins soft tee, tee series from fence. then free notes + moves to W along fence.

0925 - after not seeing or hearing from either member of pair for nearly one hour, 2 birds fly rapidly from W to E - one chasing other. Chaser stops at tree #1, but chased continues on 30± yds to E. + lands in 6 foot tree. moves to far side (in shade) + sits quietly.

0930 - flies off to NE to fence + drops down in to pile of Acacia branches.

0937 - as truck passes ♂ sings loud <sup>(repeated)</sup> chatter + another in flight from near road to large Acacia along fence at west end. Sings several more loud songs. ♂ to S sings once.

0940 - several chatter songs from W of Acacia.

0945 - one chatter song as truck passes on road.



LLWof  
1964

*Aimophila samicheasti*

August 23 3 mi. E. Tchuantepec, 1000 ft., Oaxaca, Mexico

Nest in holly-like bush. 23 cm up in 100 cm bush.  
outside dia. 10 cm inside 7 cm 5 cm deep.

nest

Contains 2 young. - feathers just beginning to erupt from  
sheaths - flight feathers - dorsal + femoral tracts.  
one young has at least 2 fly larvae embedded in bare skin  
around tail.





























